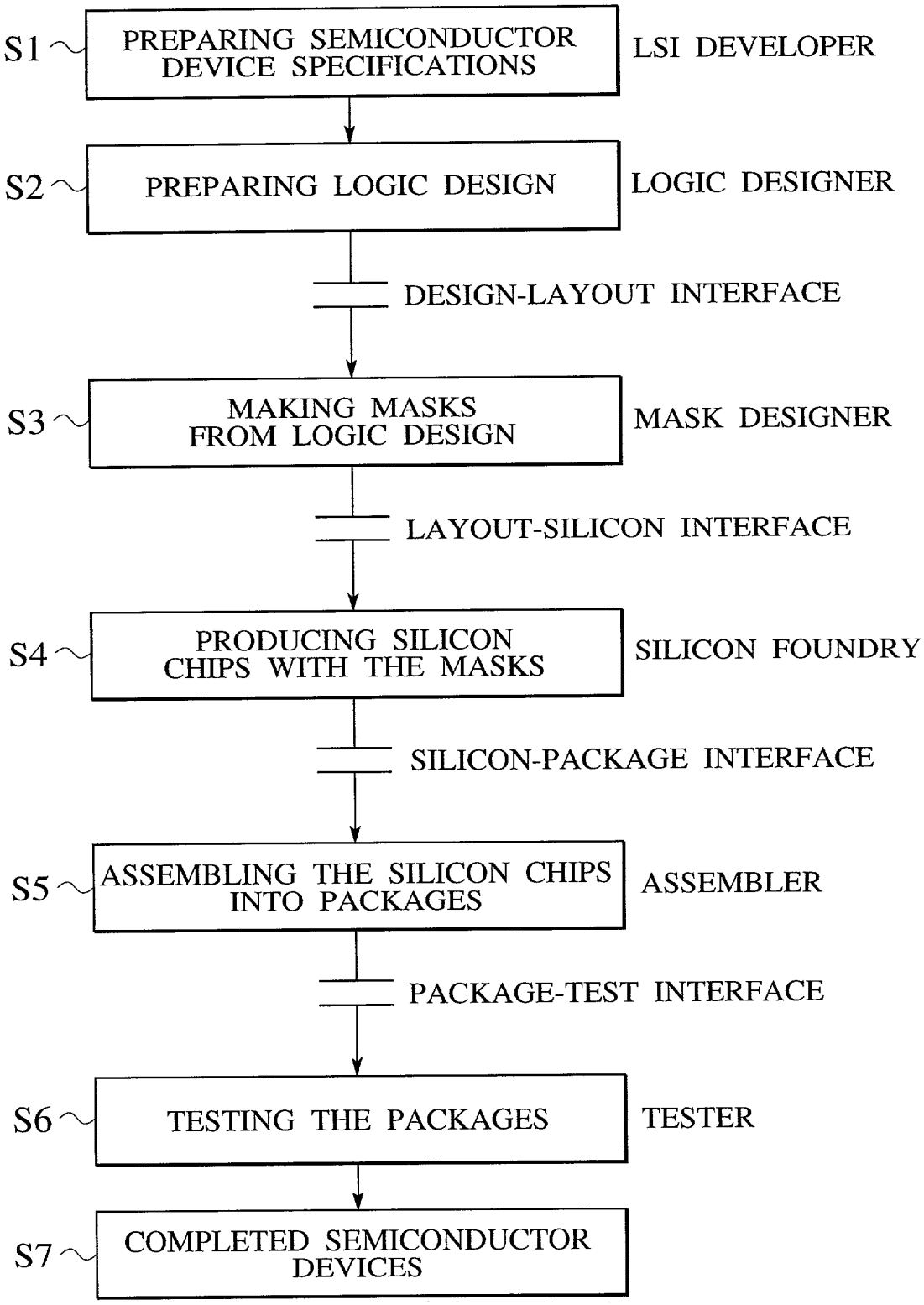
FIG.1


S1
PREPARING SEMICONDUCTOR DEVICE SPECIFICATIONS
LSI DEVELOPER
S2
PREPARING LOGIC DESIGN
LOGIC DESIGNER
DESIGN-LAYOUT INTERFACE
S3
MAKING MASKS FROM LOGIC DESIGN
MASK DESIGNER
LAYOUT-SILICON INTERFACE
S4
PRODUCING SILICON CHIPS WITH THE MASKS
SILICON FOUNDRY
SILICON-PACKAGE INTERFACE
S5
ASSEMBLING THE SILICON CHIPS INTO PACKAGES
ASSEMBLER
PACKAGE-TEST INTERFACE
S6
TESTING THE PACKAGES
TESTER
S7
COMPLETED SEMICONDUCTOR DEVICES

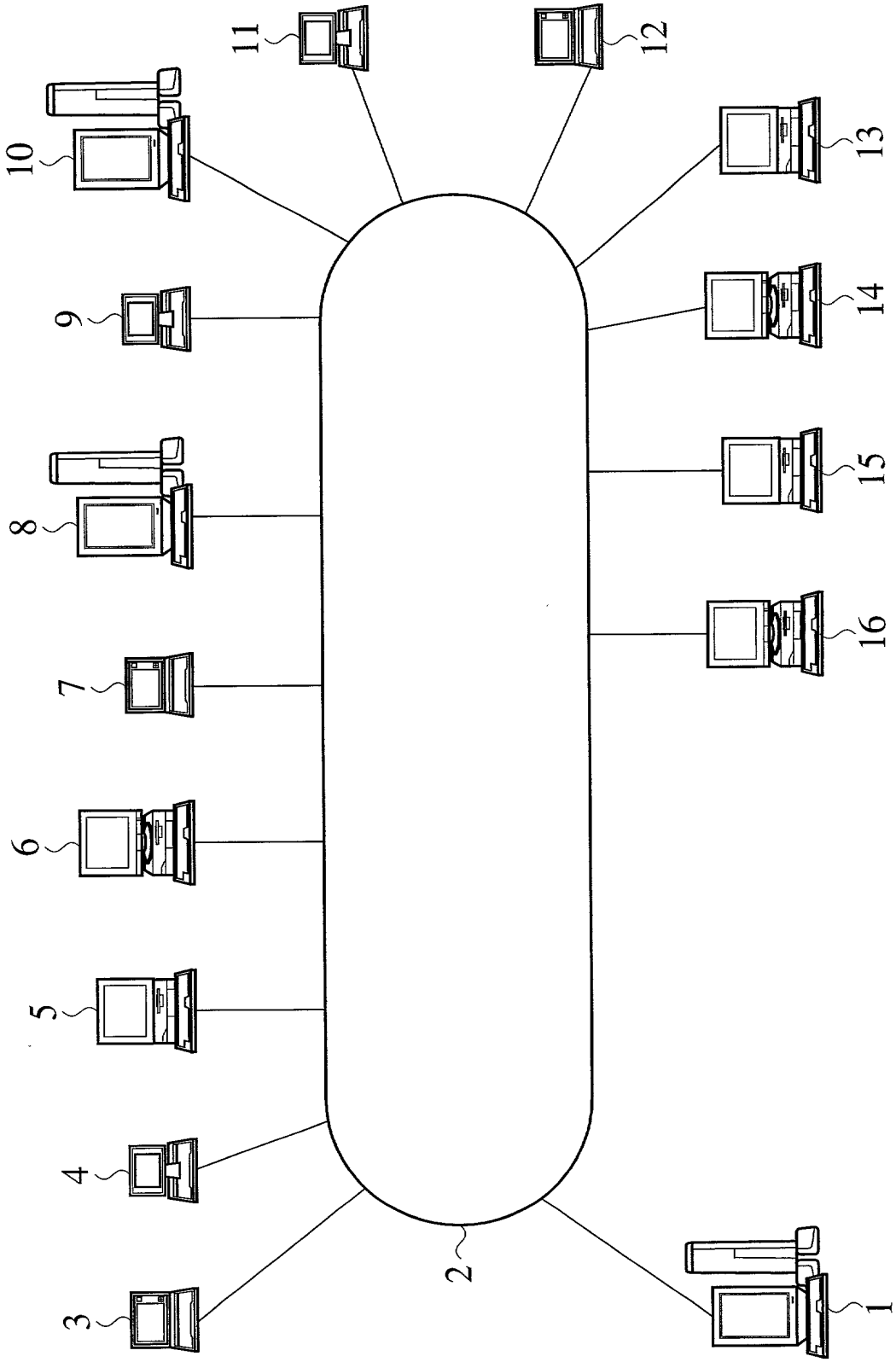


FIG.2

FIG.3

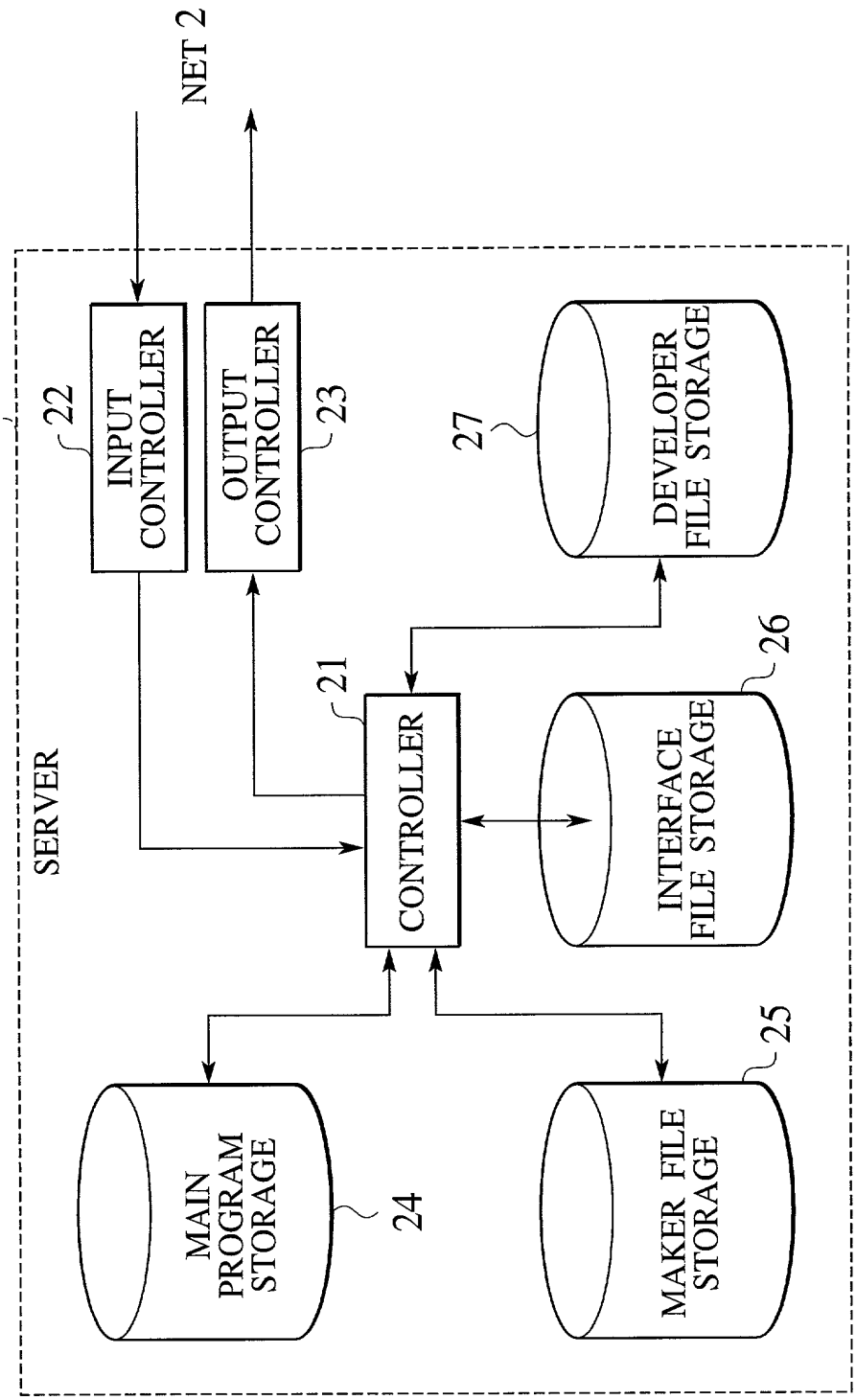

NET 2
1
SERVER
22
INPUT CONTROLLER
23
OUTPUT CONTROLLER
27
DEVELOPER FILE STORAGE
21
CONTROLLER
26
INTERFACE FILE STORAGE
24
MAIN PROGRAM STORAGE
25
MAKER FILE STORAGE

FIG.4

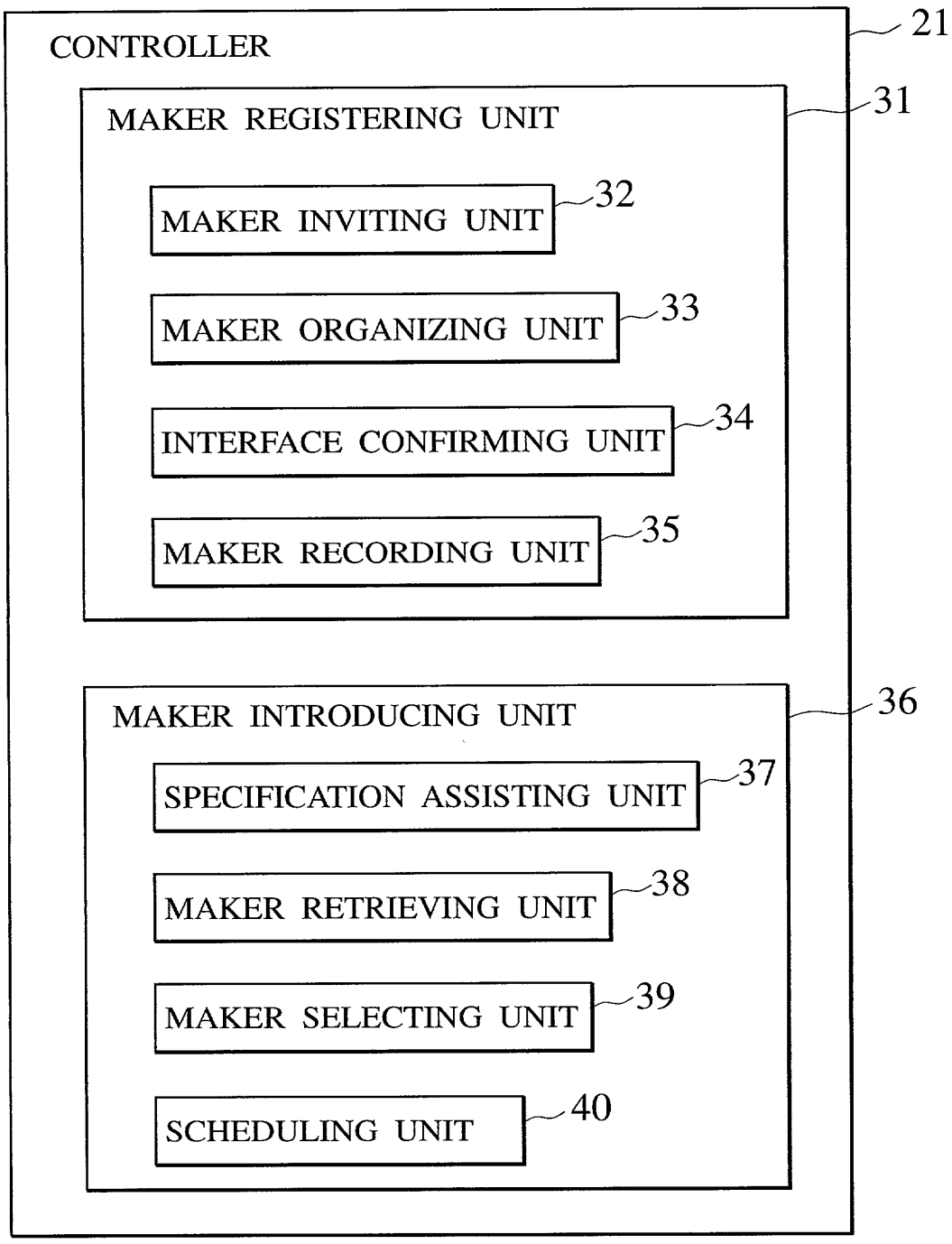

CONTROLLER
21
MAKER REGISTERING UNIT
31
MAKER INVITING UNIT
32
MAKER ORGANIZING UNIT
33
INTERFACE CONFIRMING UNIT
34
MAKER RECORDING UNIT
35
MAKER INTRODUCING UNIT
36
SPECIFICATION ASSISTING UNIT
37
MAKER RETRIEVING UNIT
38
MAKER SELECTING UNIT
39
SCHEDULING UNIT
40

FIG.5

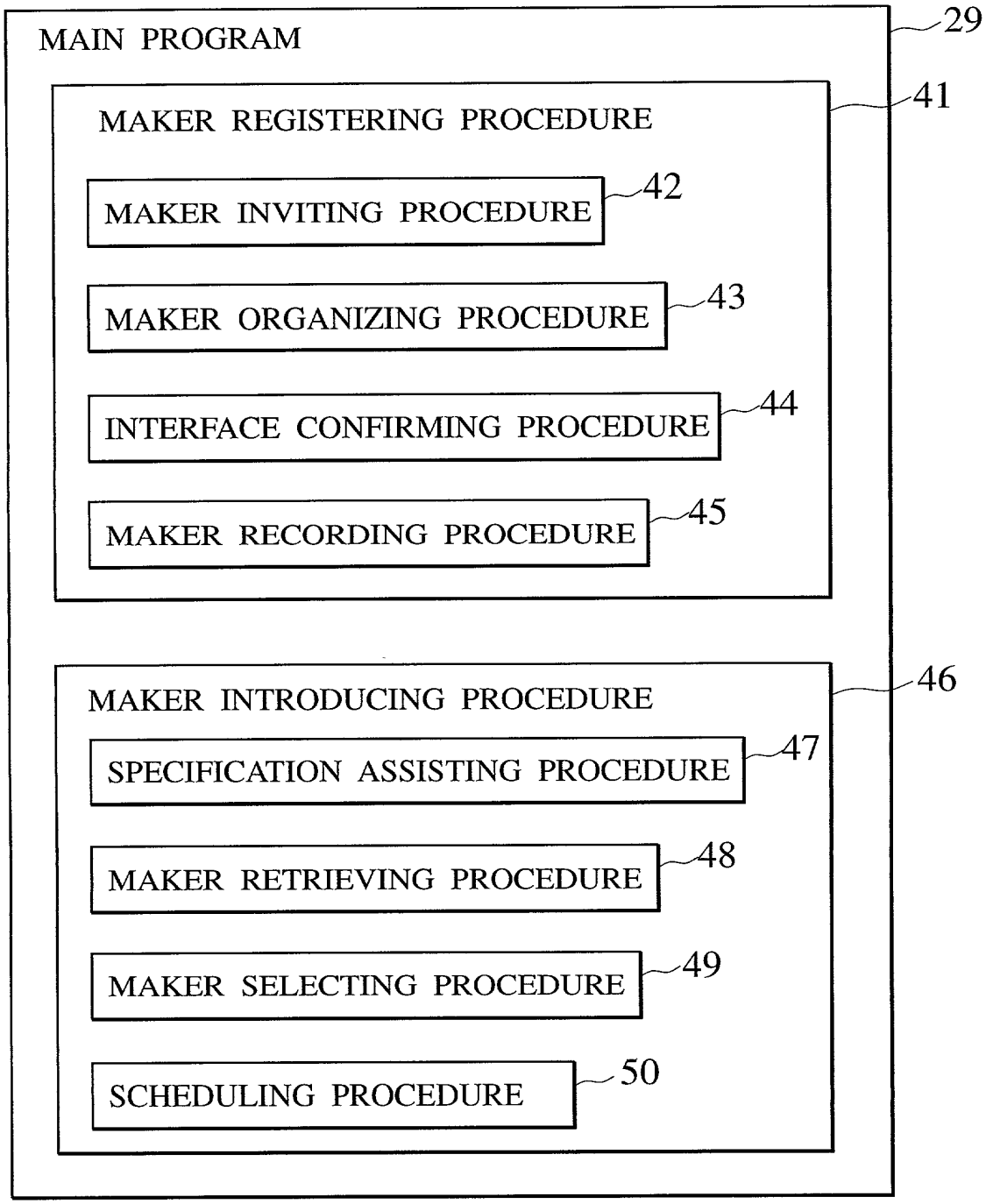

MAIN PROGRAM
29
MAKER REGISTERING PROCEDURE
41
MAKER INVITING PROCEDURE
42
MAKER ORGANIZING PROCEDURE
43
INTERFACE CONFIRMING PROCEDURE
44
MAKER RECORDING PROCEDURE
45
MAKER INTRODUCING PROCEDURE
46
SPECIFICATION ASSISTING PROCEDURE
47
MAKER RETRIEVING PROCEDURE
48
MAKER SELECTING PROCEDURE
49
SCHEDULING PROCEDURE
50

FIG.6

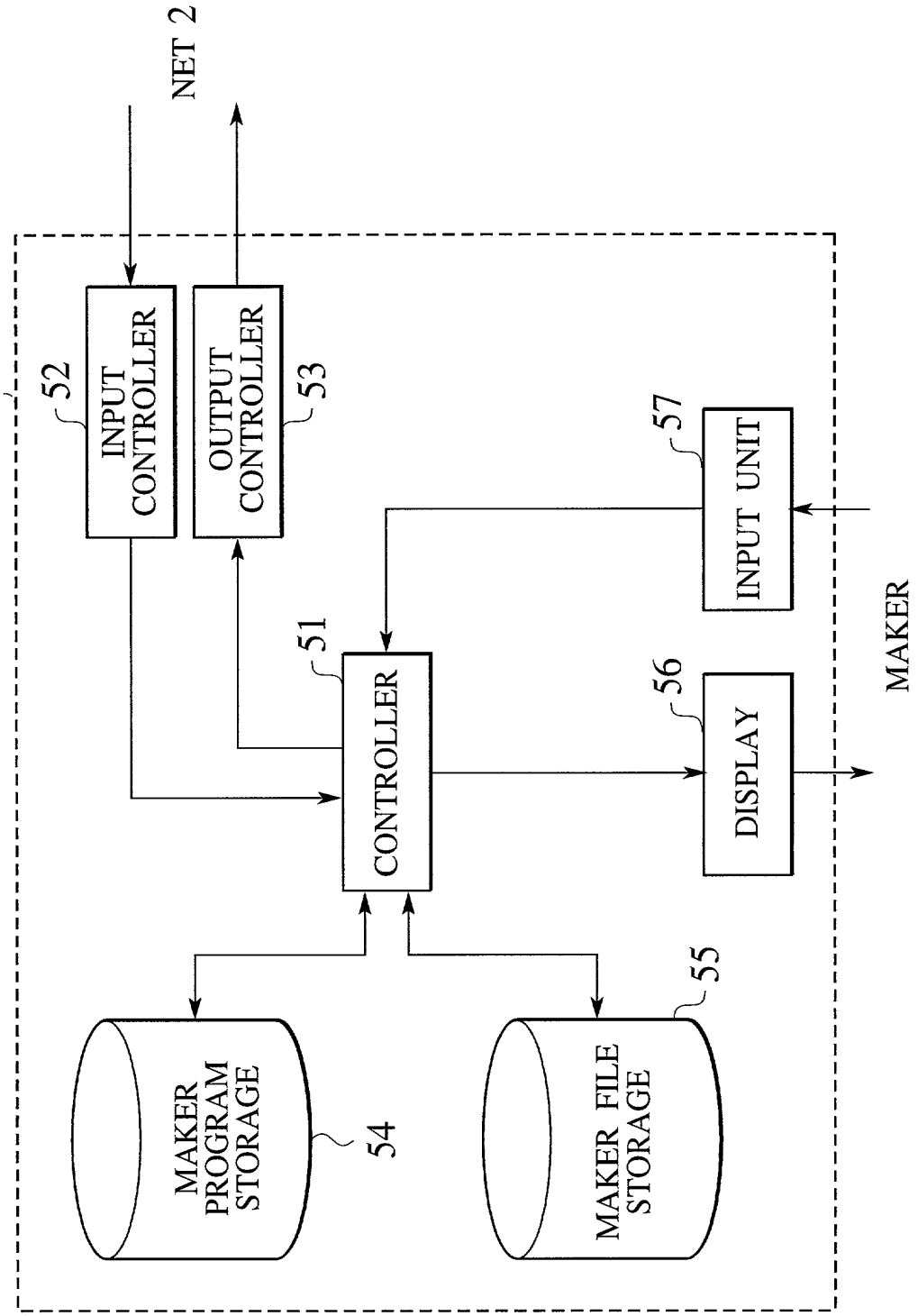

NET 2
3~11
52
INPUT CONTROLLER
53
OUTPUT CONTROLLER
57
INPUT UNIT
MAKER
51
CONTROLLER
56
DISPLAY
MAKER PROGRAM STORAGE
54
MAKER FILE STORAGE
55

FIG.7

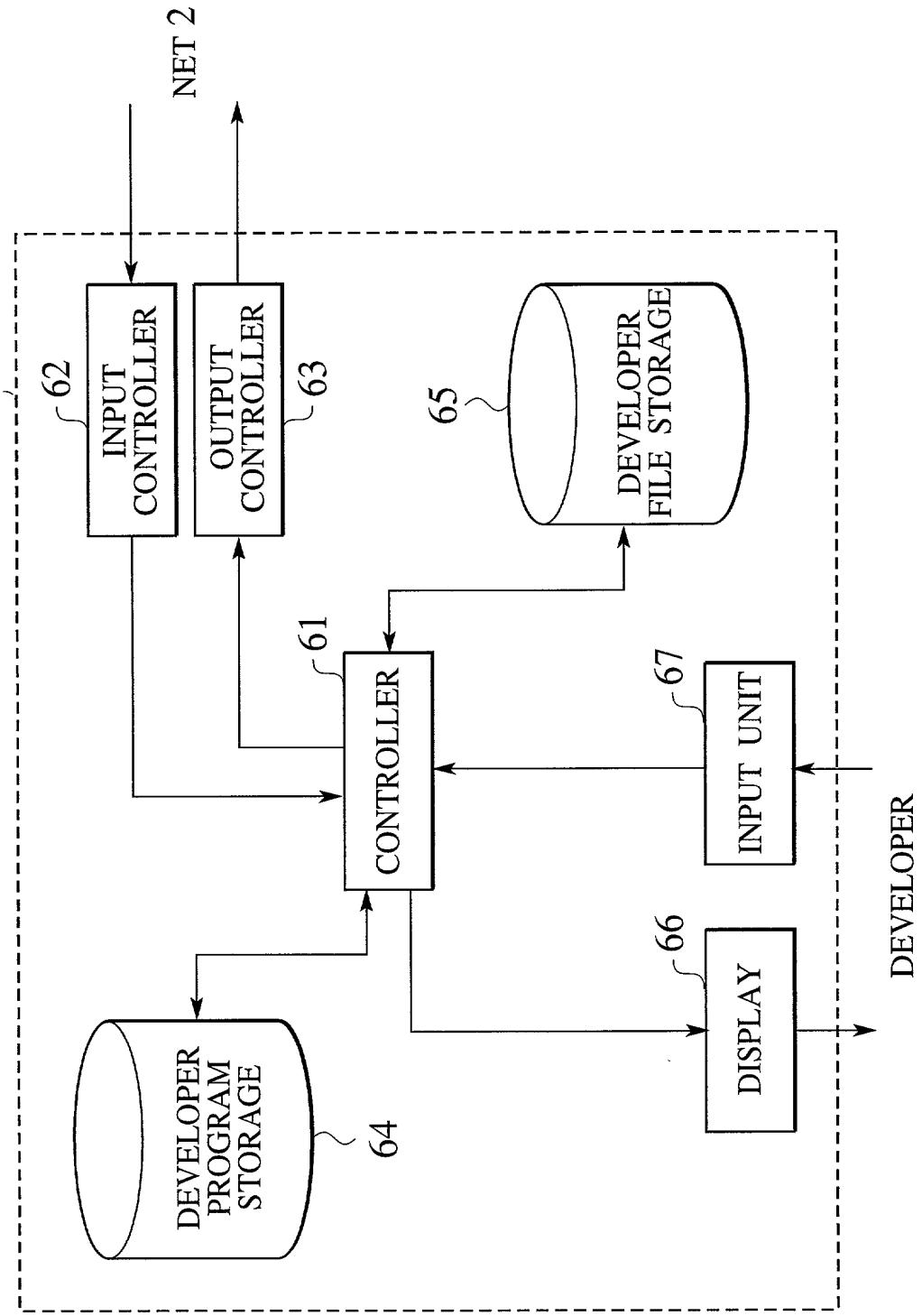

12~16
NET 2
62
INPUT CONTROLLER
63
OUTPUT CONTROLLER
65
DEVELOPER FILE STORAGE
61
CONTROLLER
67
INPUT UNIT
DEVELOPER
66
DISPLAY
64
DEVELOPER PROGRAM STORAGE

FIG.8

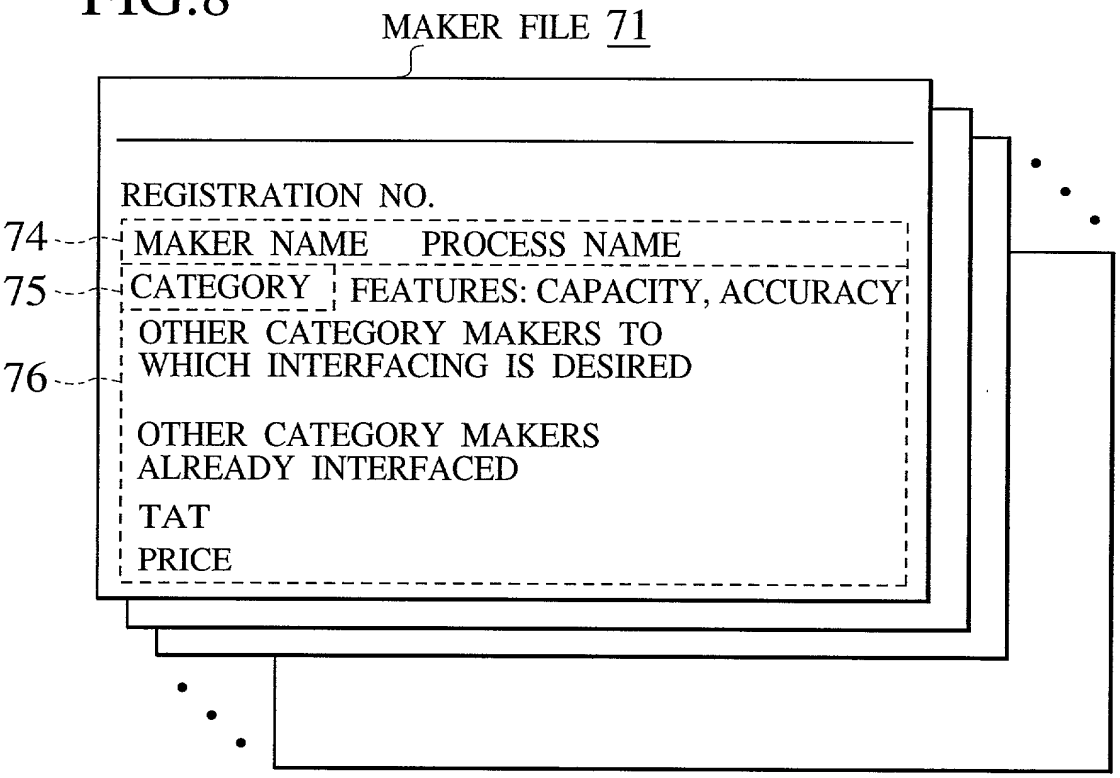

MAKER FILE 71
REGISTRATION NO.
74
MAKER NAME PROCESS NAME
75
CATEGORY
FEATURES: CAPACITY, ACCURACY
OTHER CATEGORY MAKERS TO WHICH INTERFACING IS DESIRED
76
OTHER CATEGORY MAKERS ALREADY INTERFACED
TAT
PRICE

FIG.9

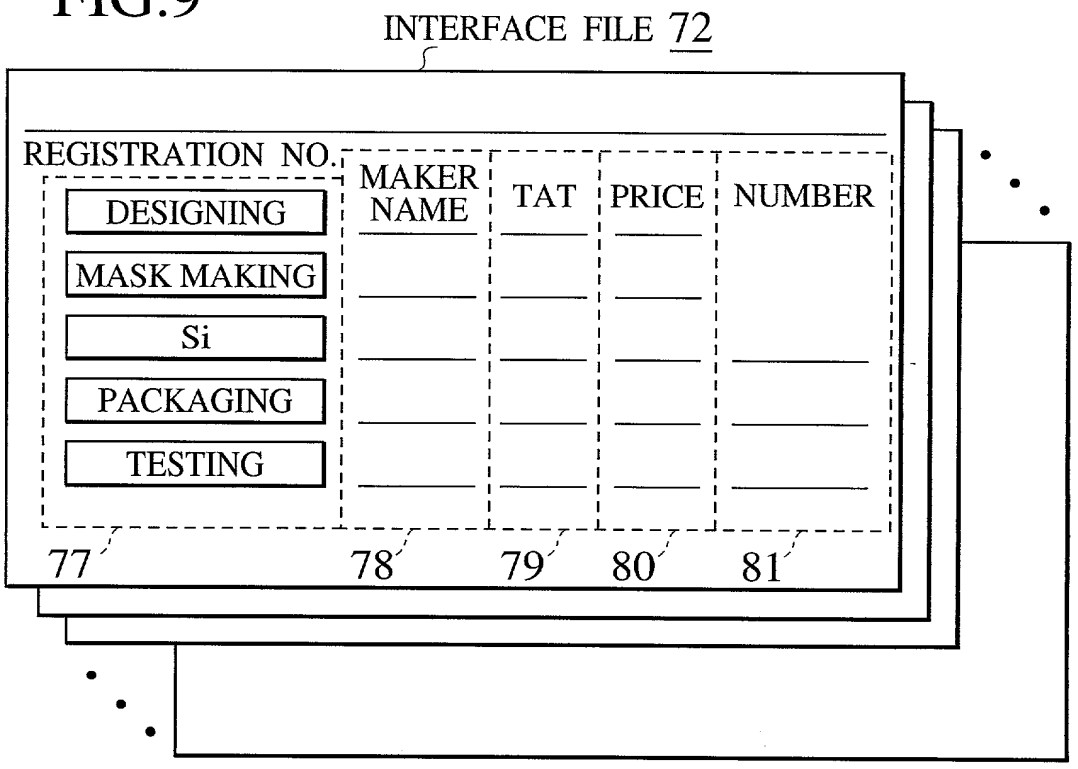

INTERFACE FILE 72
REGISTRATION NO.
DESIGNING
MASK MAKING
Si
PACKAGING
TESTING
MAKER NAME
TAT
PRICE
NUMBER
77
78
79
80
81

FIG.10

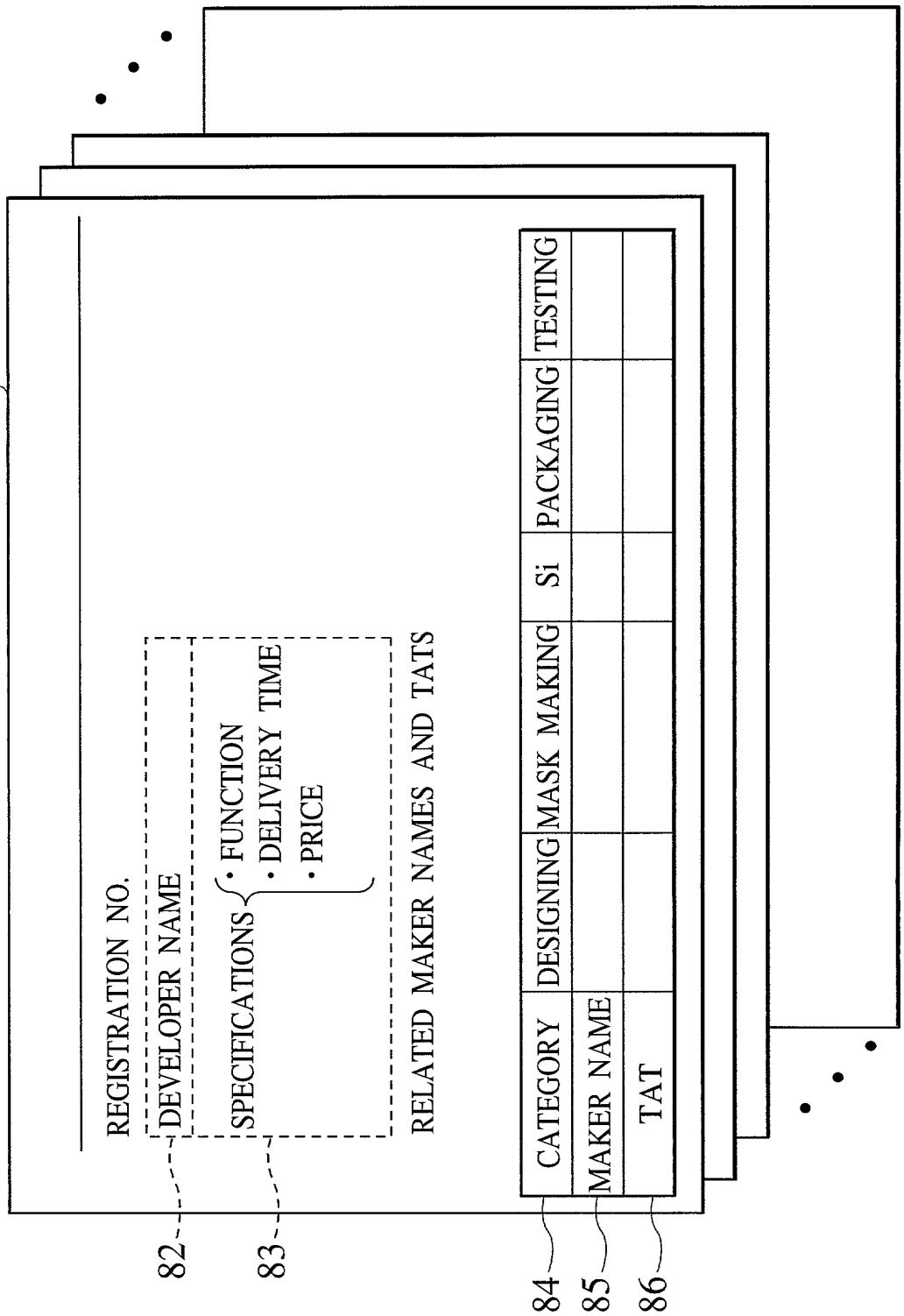

DEVELOPER FILE 73
REGISTRATION NO.
DEVELOPER NAME
SPECIFICATIONS
• FUNCTION
• DELIVERY TIME
• PRICE
RELATED MAKER NAMES AND TATS
CATEGORY
DESIGNING
MASK MAKING
Si
PACKAGING
TESTING
MAKER NAME
TAT
82
83
84
85
86

FIG.11

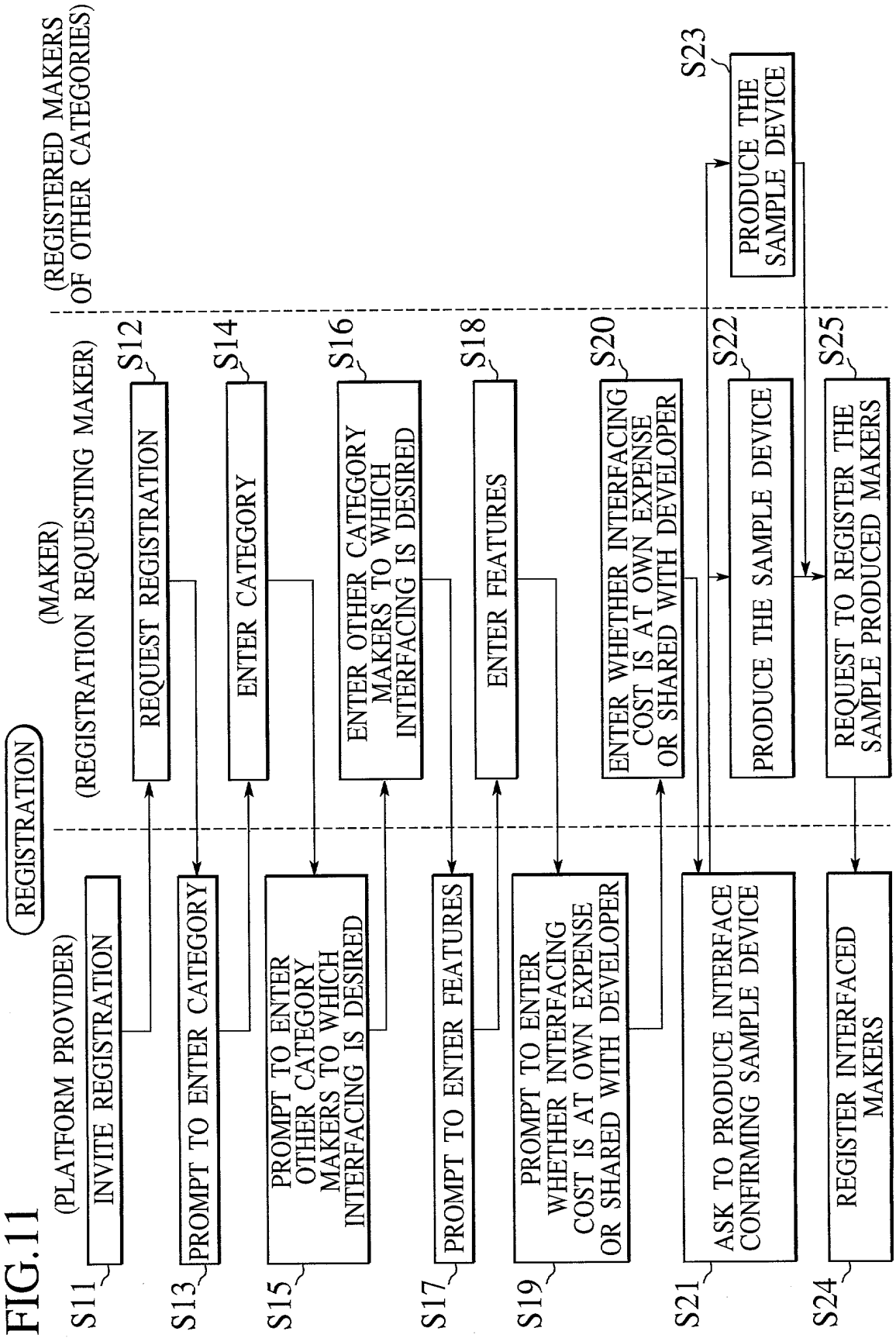

REGISTRATION
(PLATFORM PROVIDER)
(MAKER)
(REGISTRATION REQUESTING MAKER)
(REGISTERED MAKERS OF OTHER CATEGORIES)
INVITE REGISTRATION
S11
REQUEST REGISTRATION
S12
PROMPT TO ENTER CATEGORY
S13
ENTER CATEGORY
S14
PROMPT TO ENTER OTHER CATEGORY MAKERS TO WHICH INTERFACING IS DESIRED
S15
ENTER OTHER CATEGORY MAKERS TO WHICH INTERFACING IS DESIRED
S16
PROMPT TO ENTER FEATURES
S17
ENTER FEATURES
S18
PROMPT TO ENTER WHETHER INTERFACING COST IS AT OWN EXPENSE OR SHARED WITH DEVELOPER
S19
ENTER WHETHER INTERFACING COST IS AT OWN EXPENSE OR SHARED WITH DEVELOPER
S20
ASK TO PRODUCE INTERFACE CONFIRMING SAMPLE DEVICE
S21
PRODUCE THE SAMPLE DEVICE
S22
PRODUCE THE SAMPLE DEVICE
S23
REGISTER INTERFACED MAKERS
S24
REQUEST TO REGISTER THE SAMPLE PRODUCED MAKERS
S25

FIG.12

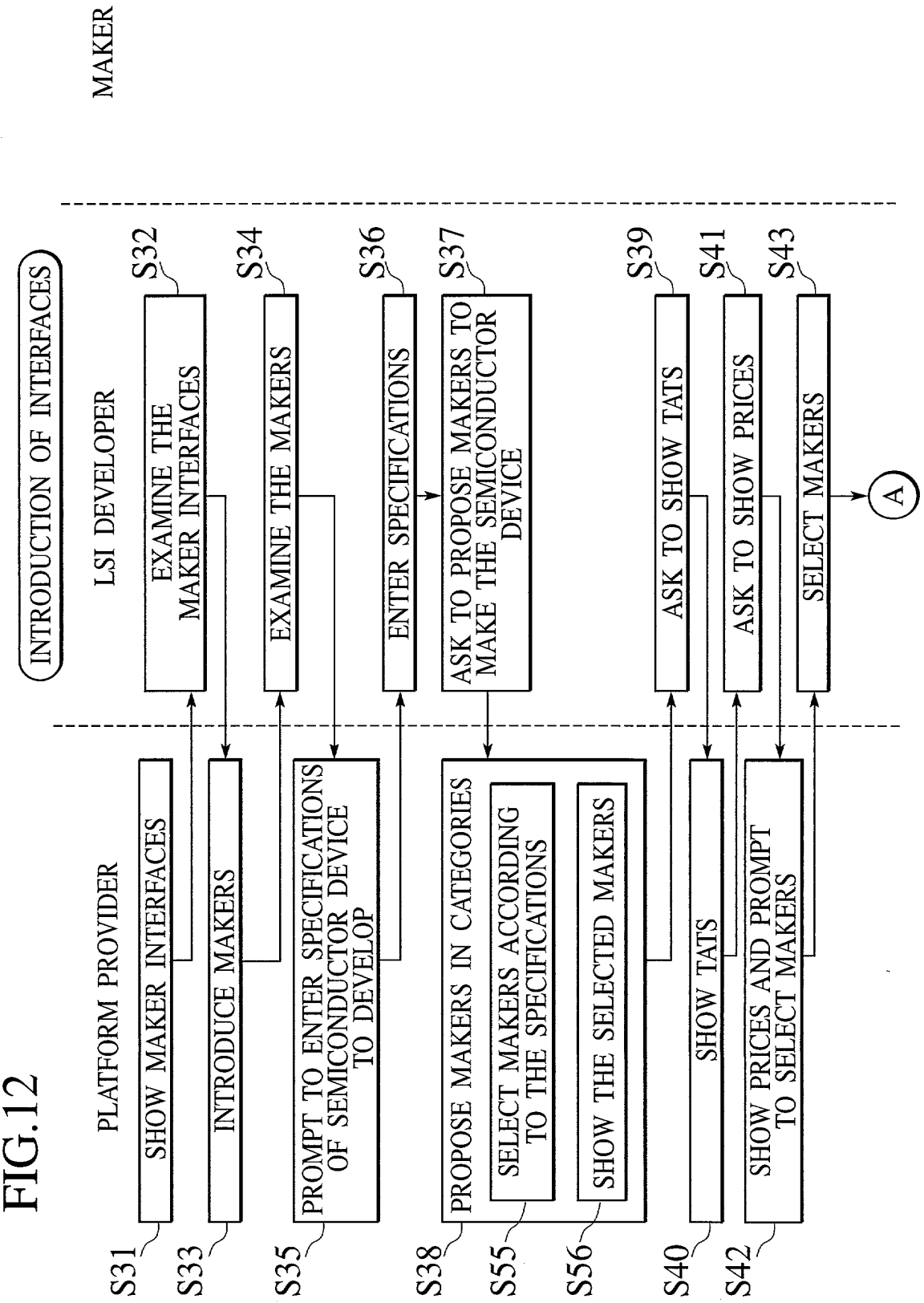

PLATFORM PROVIDER
LSI DEVELOPER
MAKER
INTRODUCTION OF INTERFACES
SHOW MAKER INTERFACES
S31
EXAMINE THE MAKER INTERFACES
S32
INTRODUCE MAKERS
S33
EXAMINE THE MAKERS
S34
PROMPT TO ENTER SPECIFICATIONS OF SEMICONDUCTOR DEVICE TO DEVELOP
S35
ENTER SPECIFICATIONS
S36
PROPOSE MAKERS IN CATEGORIES
S38
SELECT MAKERS ACCORDING TO THE SPECIFICATIONS
S55
SHOW THE SELECTED MAKERS
S56
ASK TO PROPOSE MAKERS TO MAKE THE SEMICONDUCTOR DEVICE
S37
SHOW TATS
S40
ASK TO SHOW TATS
S39
SHOW PRICES AND PROMPT TO SELECT MAKERS
S42
ASK TO SHOW PRICES
S41
SELECT MAKERS
S43
A

FIG.13

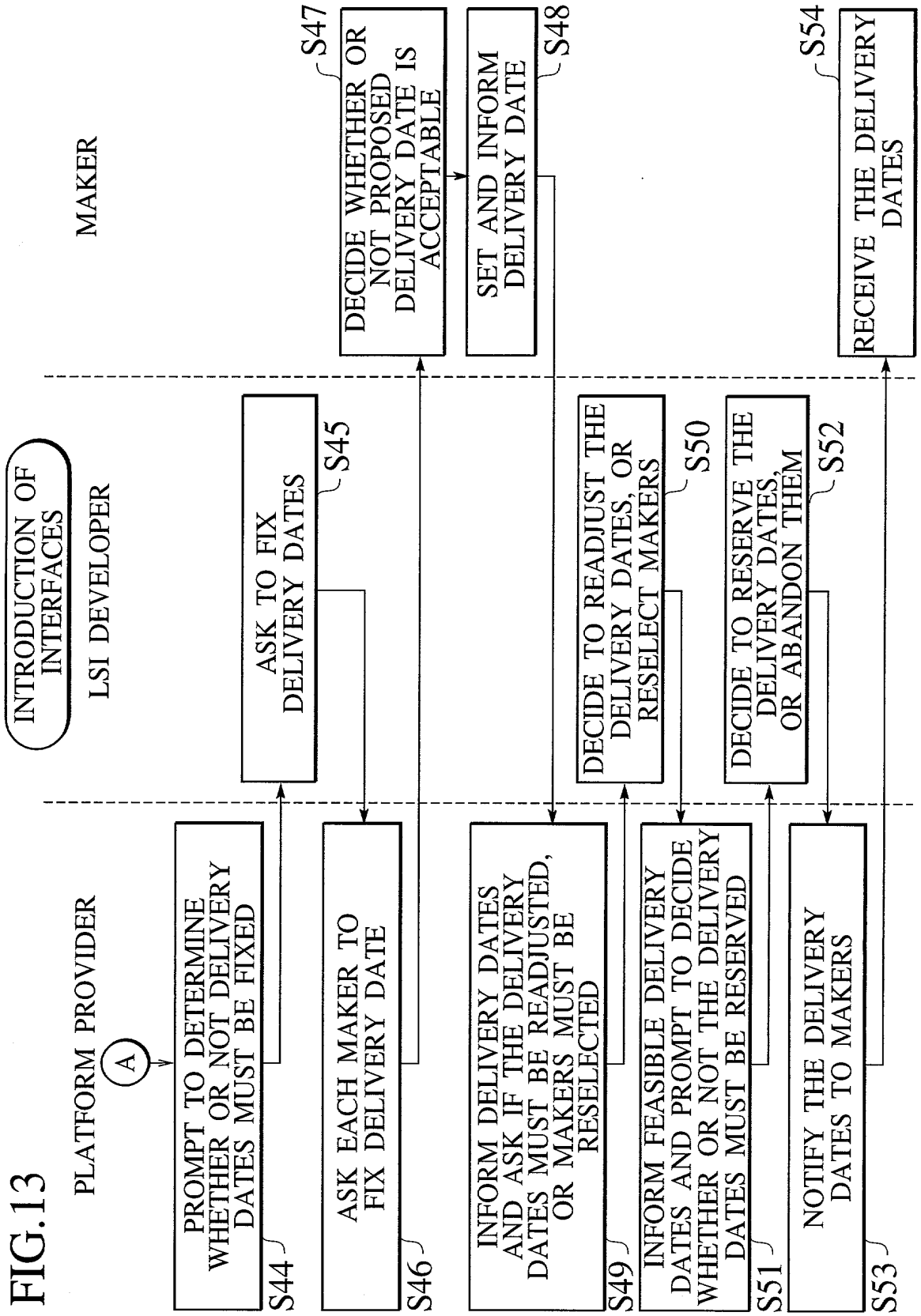

PLATFORM PROVIDER
LSI DEVELOPER
MAKER
INTRODUCTION OF INTERFACES
A
PROMPT TO DETERMINE WHETHER OR NOT DELIVERY DATES MUST BE FIXED
S44
ASK TO FIX DELIVERY DATES
S45
ASK EACH MAKER TO FIX DELIVERY DATE
S46
DECIDE WHETHER OR NOT PROPOSED DELIVERY DATE IS ACCEPTABLE
S47
SET AND INFORM DELIVERY DATE
S48
INFORM DELIVERY DATES AND ASK IF THE DELIVERY DATES MUST BE READJUSTED, OR MAKERS MUST BE RESELECTED
S49
DECIDE TO READJUST THE DELIVERY DATES, OR RESELECT MAKERS
S50
INFORM FEASIBLE DELIVERY DATES AND PROMPT TO DECIDE WHETHER OR NOT THE DELIVERY DATES MUST BE RESERVED
S51
DECIDE TO RESERVE THE DELIVERY DATES, OR ABANDON THEM
S52
NOTIFY THE DELIVERY DATES TO MAKERS
S53
RECEIVE THE DELIVERY DATES
S54

FIG.14

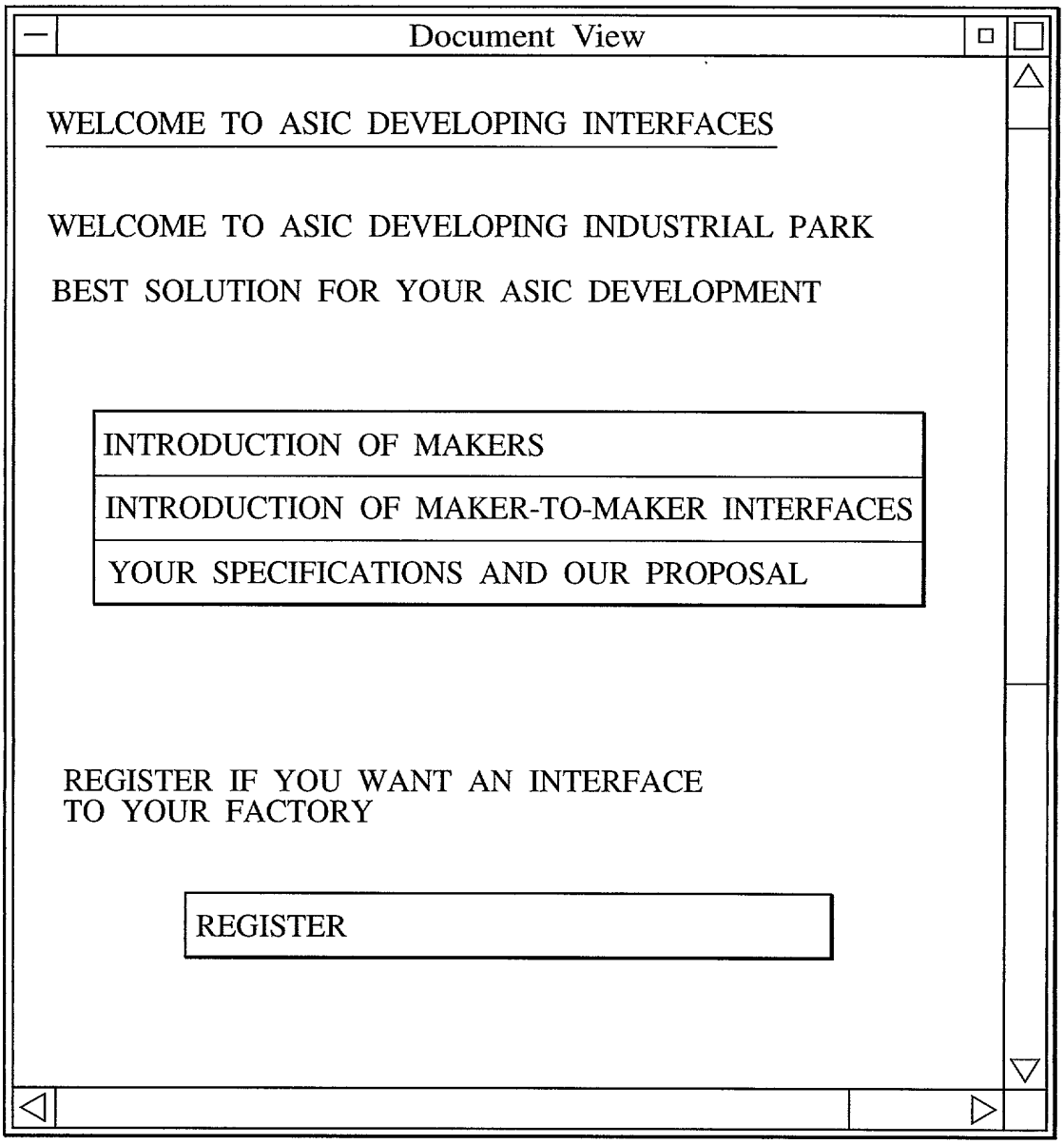

Document View
WELCOME TO ASIC DEVELOPING INTERFACES
WELCOME TO ASIC DEVELOPING INDUSTRIAL PARK
BEST SOLUTION FOR YOUR ASIC DEVELOPMENT
INTRODUCTION OF MAKERS
INTRODUCTION OF MAKER-TO-MAKER INTERFACES
YOUR SPECIFICATIONS AND OUR PROPOSAL
REGISTER IF YOU WANT AN INTERFACE
TO YOUR FACTORY
REGISTER

FIG.15

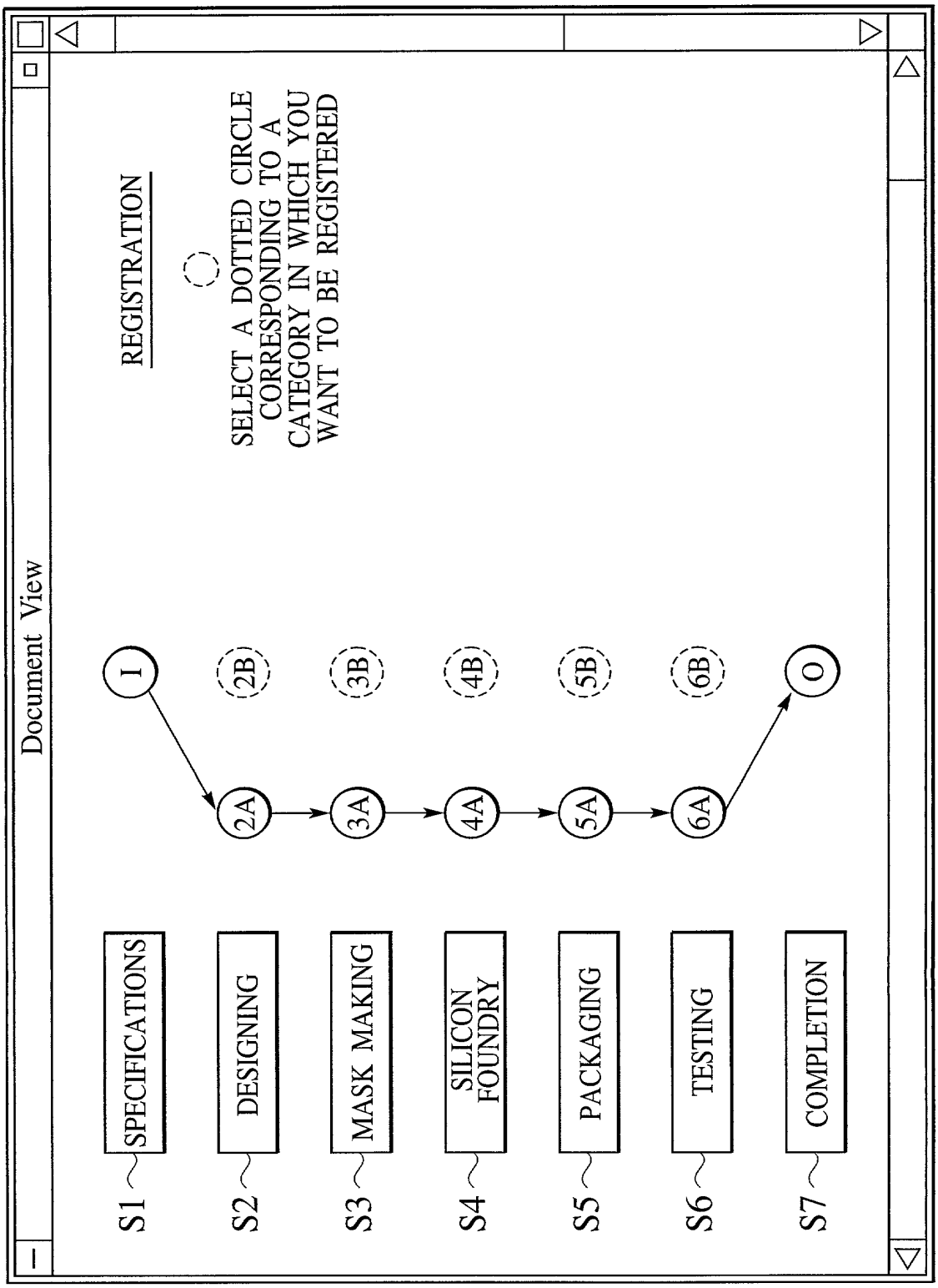

Document View
REGISTRATION
SELECT A DOTTED CIRCLE CORRESPONDING TO A CATEGORY IN WHICH YOU WANT TO BE REGISTERED
I
2A
2B
3A
3B
4A
4B
5A
5B
6A
6B
O
S1
SPECIFICATIONS
S2
DESIGNING
S3
MASK MAKING
S4
SILICON FOUNDRY
S5
PACKAGING
S6
TESTING
S7
COMPLETION

FIG.16

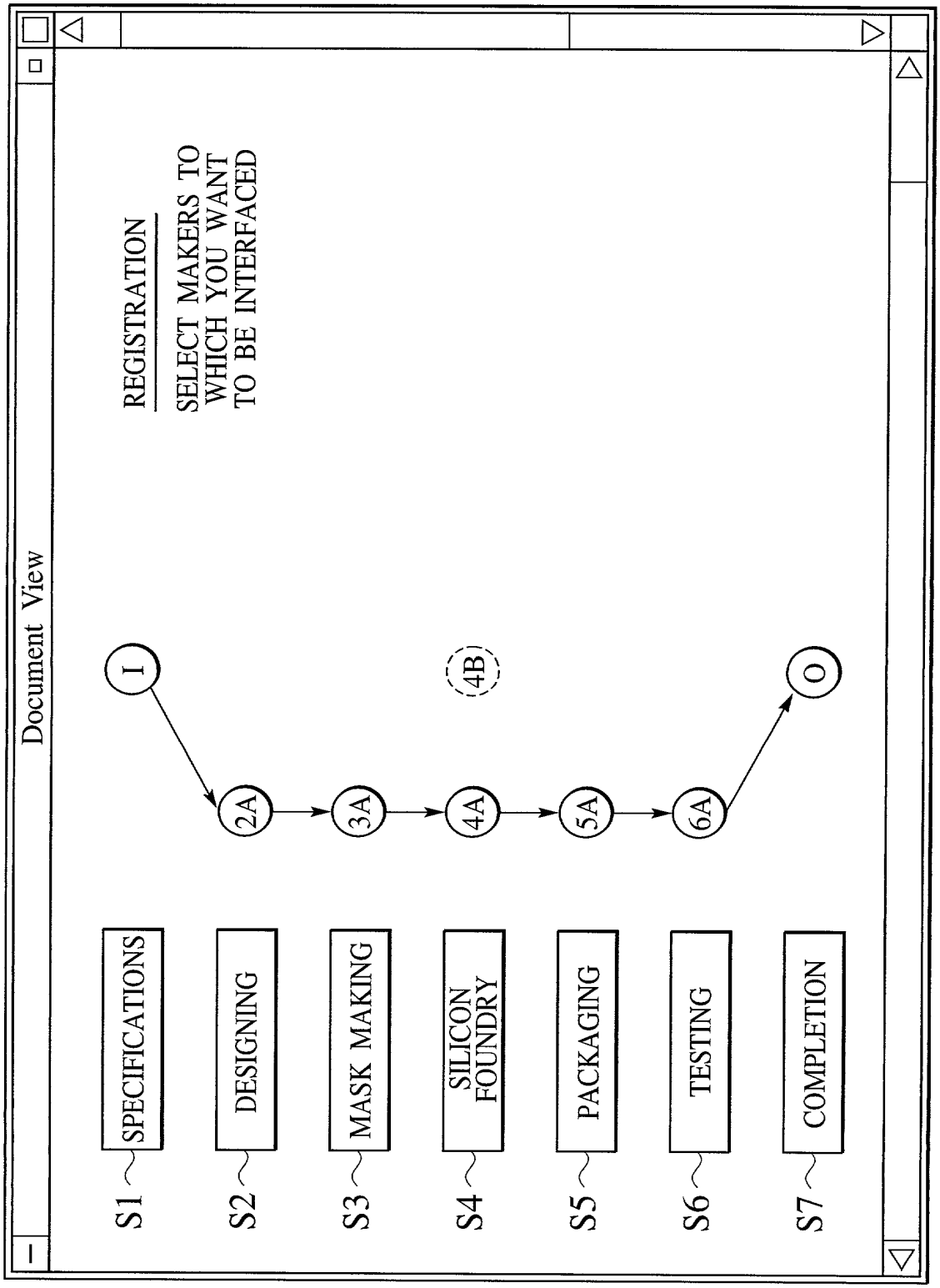

Document View
REGISTRATION
SELECT MAKERS TO WHICH YOU WANT TO BE INTERFACED
I
2A
3A
4A
4B
5A
6A
O
S1
SPECIFICATIONS
S2
DESIGNING
S3
MASK MAKING
S4
SILICON FOUNDRY
S5
PACKAGING
S6
TESTING
S7
COMPLETION

FIG.17

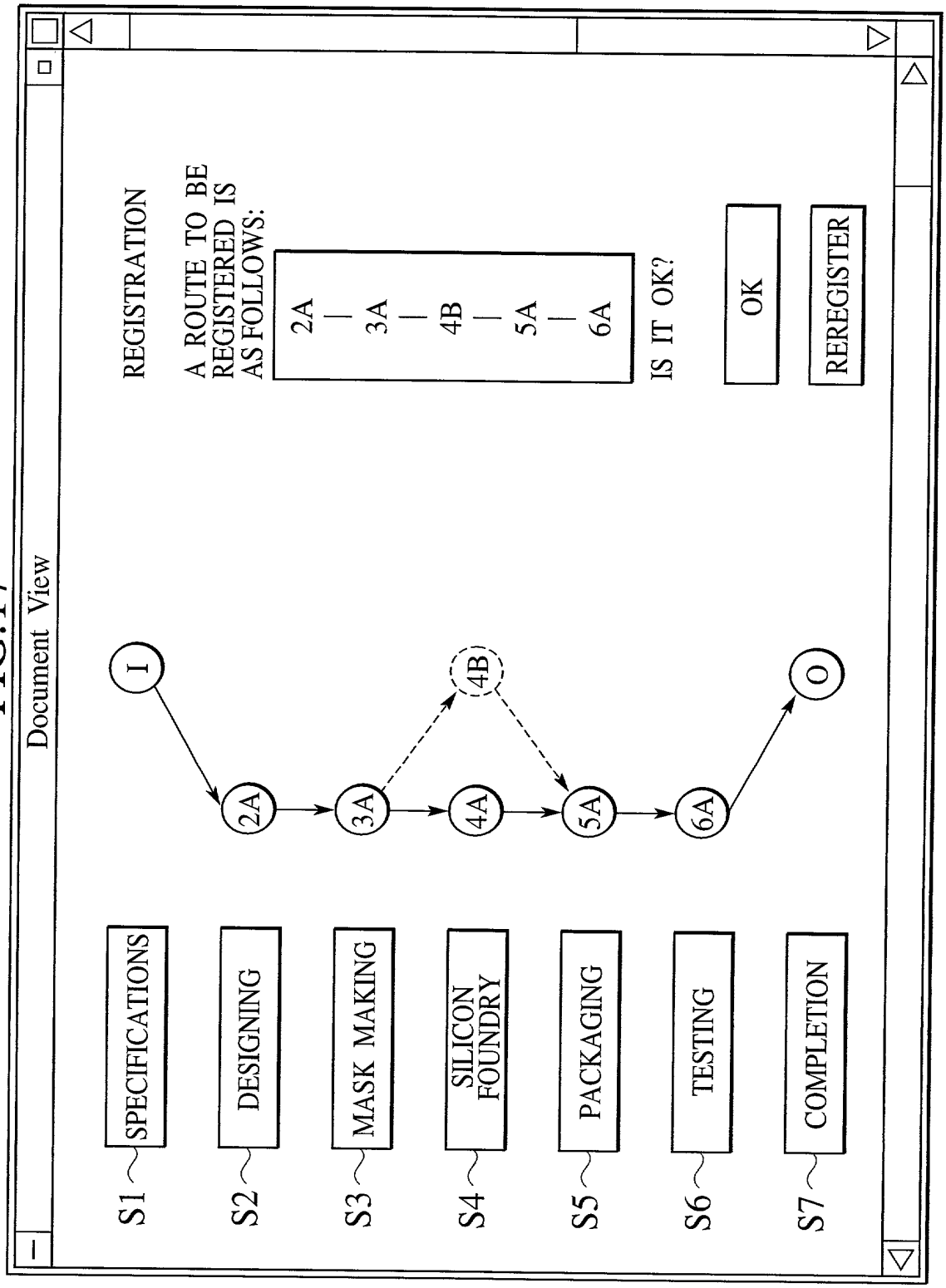

Document View
REGISTRATION
A ROUTE TO BE REGISTERED IS AS FOLLOWS:
2A
3A
4B
5A
6A
IS IT OK?
OK
REREGISTER
I
2A
3A
4B
4A
5A
6A
O
S1
SPECIFICATIONS
S2
DESIGNING
S3
MASK MAKING
S4
SILICON FOUNDRY
S5
PACKAGING
S6
TESTING
S7
COMPLETION

FIG.18

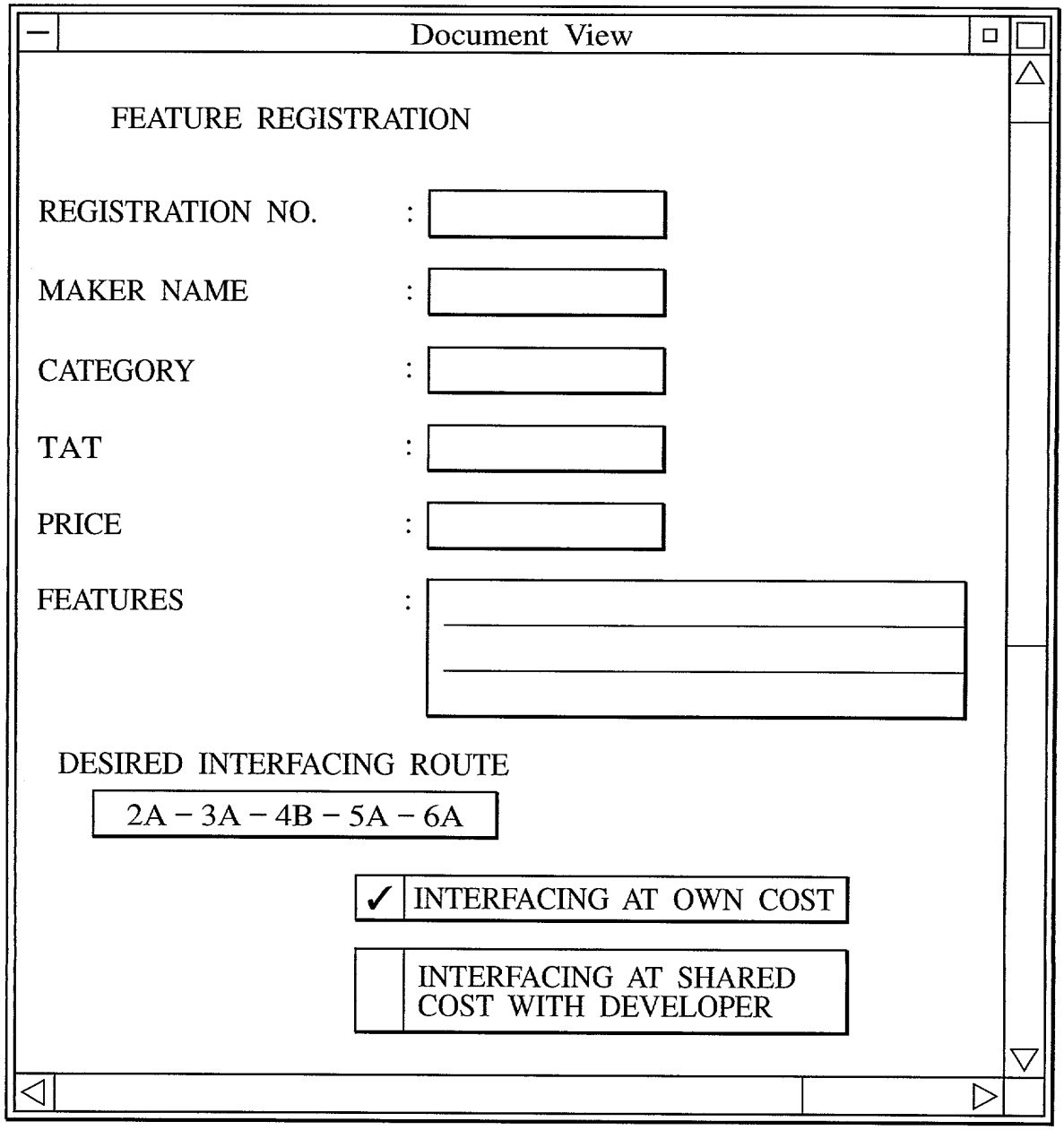

Document View
FEATURE REGISTRATION
REGISTRATION NO. :
MAKER NAME :
CATEGORY :
TAT :
PRICE :
FEATURES :
DESIRED INTERFACING ROUTE
2A − 3A − 4B − 5A − 6A
✓ INTERFACING AT OWN COST
INTERFACING AT SHARED COST WITH DEVELOPER

FIG.19

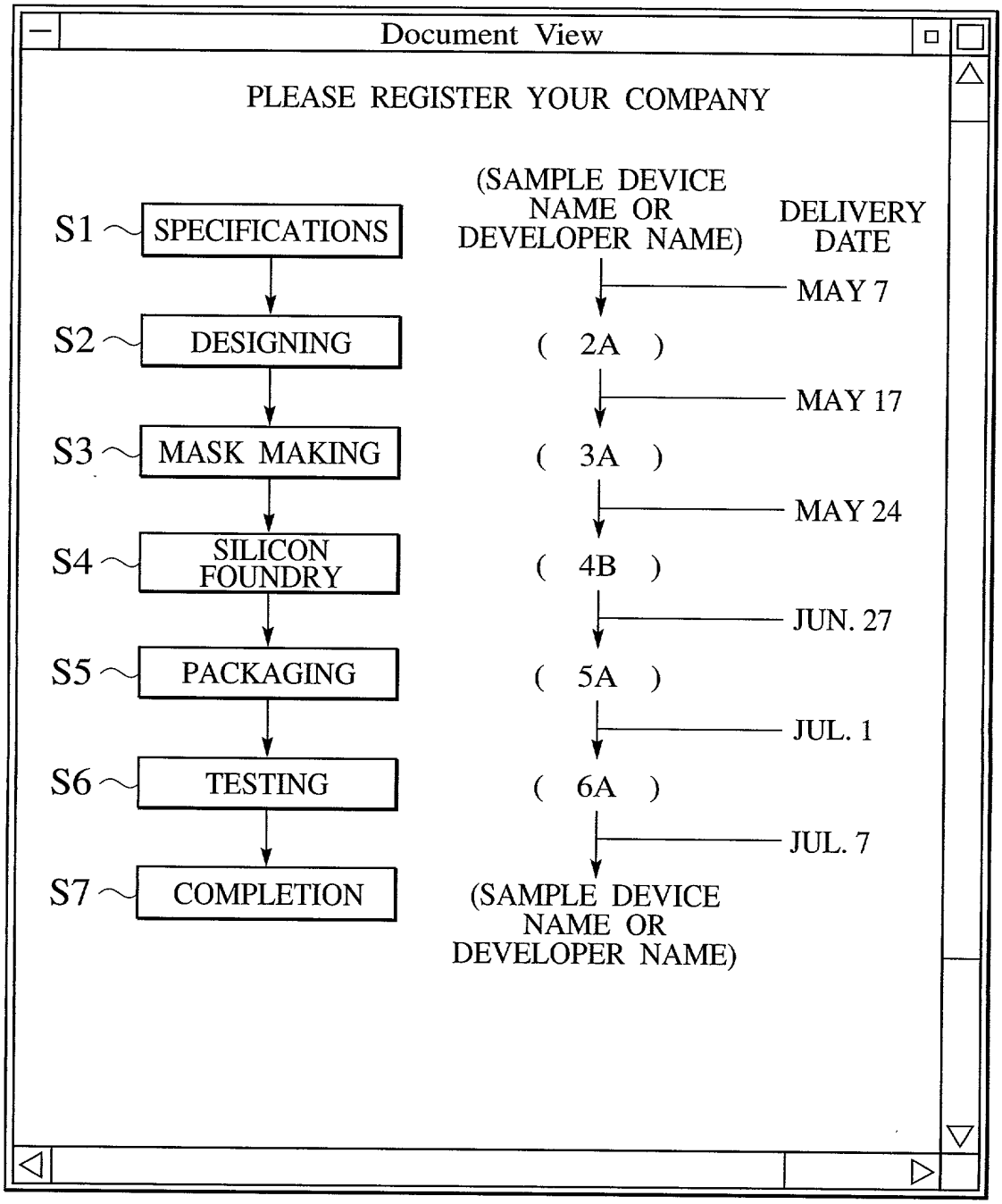

Document View
PLEASE REGISTER YOUR COMPANY
(SAMPLE DEVICE NAME OR DEVELOPER NAME)
DELIVERY DATE
S1
SPECIFICATIONS
MAY 7
S2
DESIGNING
(2A)
MAY 17
S3
MASK MAKING
(3A)
MAY 24
S4
SILICON FOUNDRY
(4B)
JUN. 27
S5
PACKAGING
(5A)
JUL. 1
S6
TESTING
(6A)
JUL. 7
S7
COMPLETION
(SAMPLE DEVICE NAME OR DEVELOPER NAME)

FIG.20

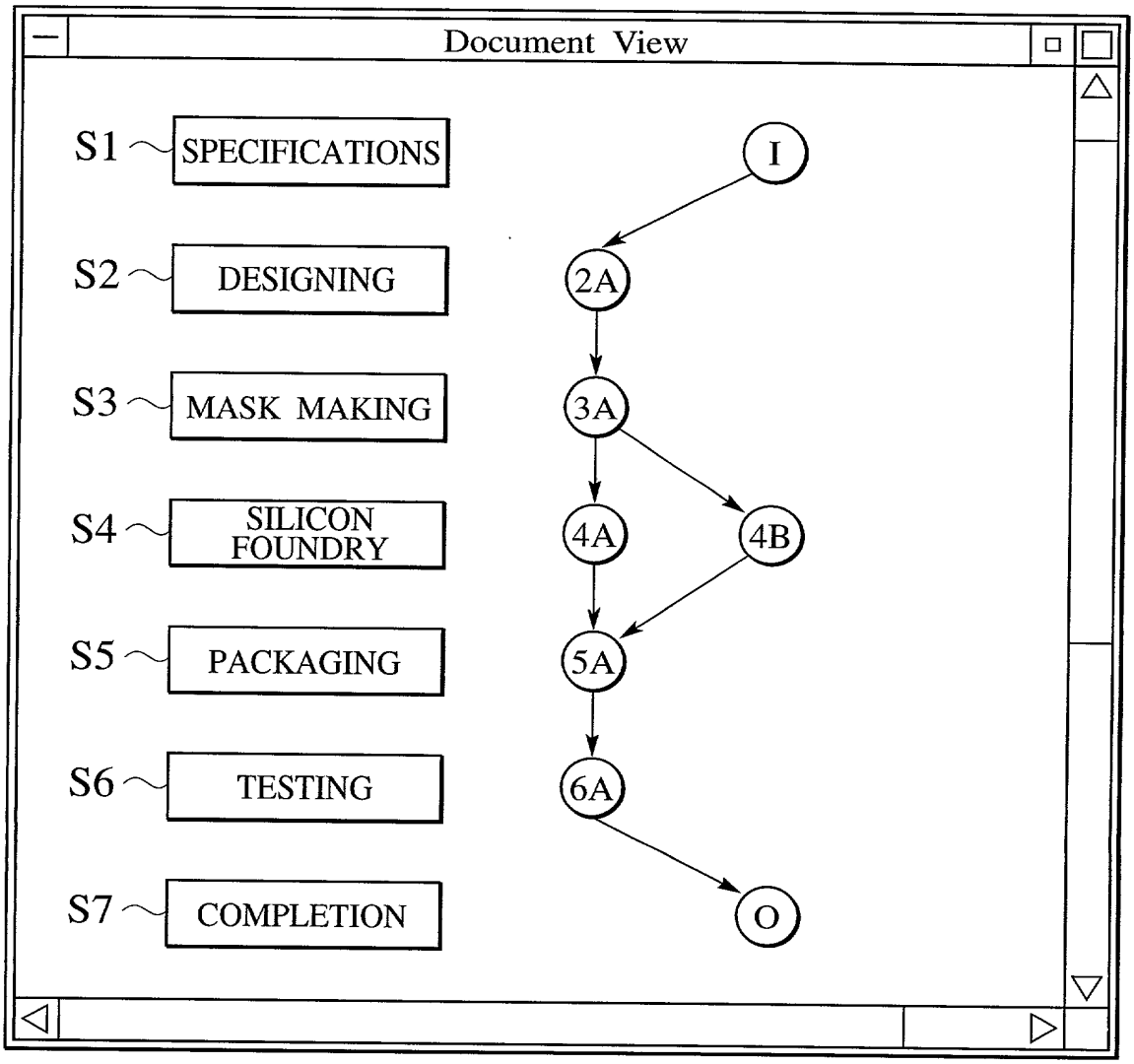

Document View
S1
SPECIFICATIONS
S2
DESIGNING
S3
MASK MAKING
S4
SILICON FOUNDRY
S5
PACKAGING
S6
TESTING
S7
COMPLETION
I
2A
3A
4A
4B
5A
6A
O

FIG.21

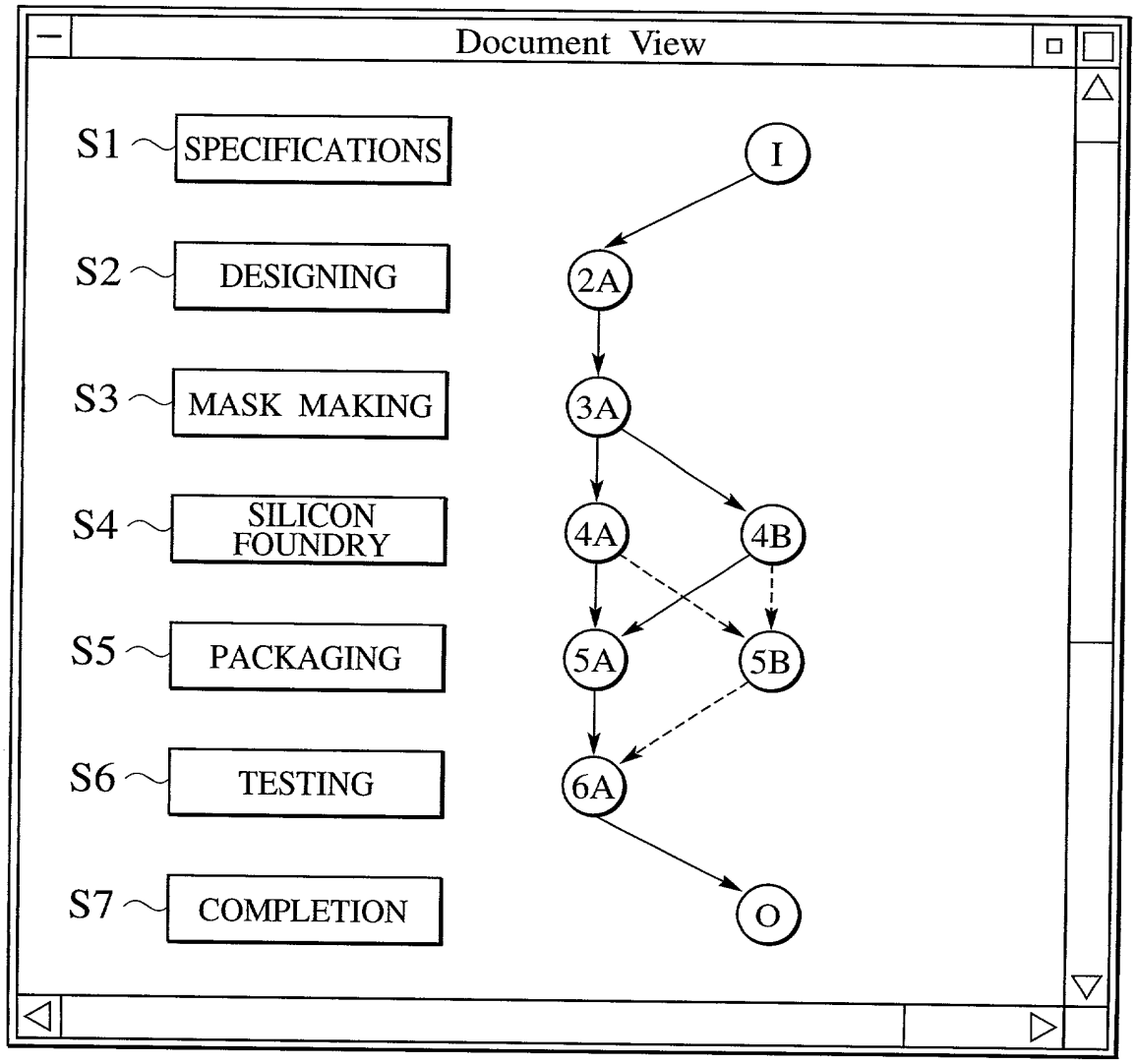

Document View
S1
SPECIFICATIONS
S2
DESIGNING
S3
MASK MAKING
S4
SILICON FOUNDRY
S5
PACKAGING
S6
TESTING
S7
COMPLETION
I
2A
3A
4A
4B
5A
5B
6A
O

FIG.22

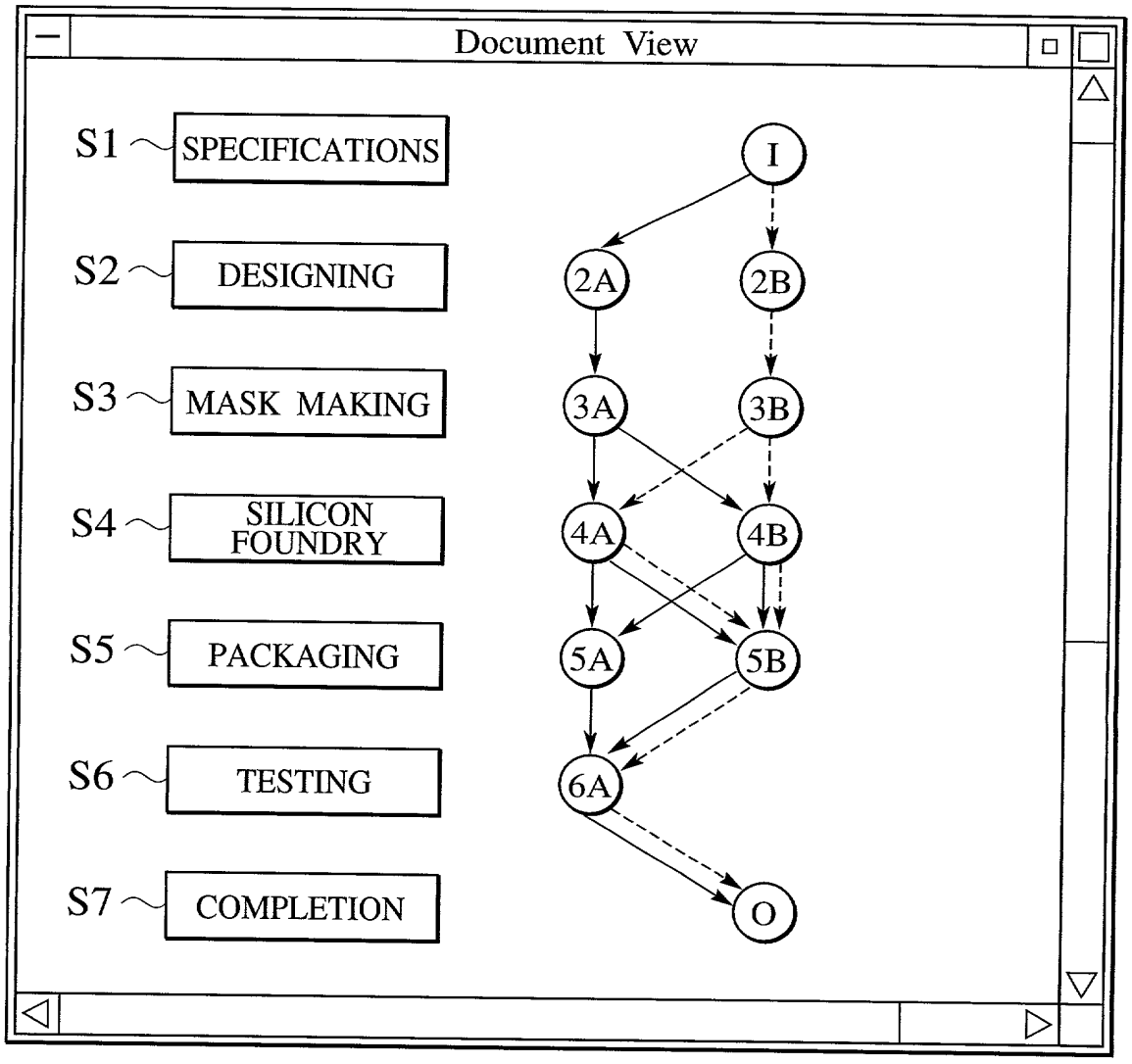

Document View
S1
SPECIFICATIONS
S2
DESIGNING
S3
MASK MAKING
S4
SILICON FOUNDRY
S5
PACKAGING
S6
TESTING
S7
COMPLETION
I
2A
2B
3A
3B
4A
4B
5A
5B
6A
O

FIG.23

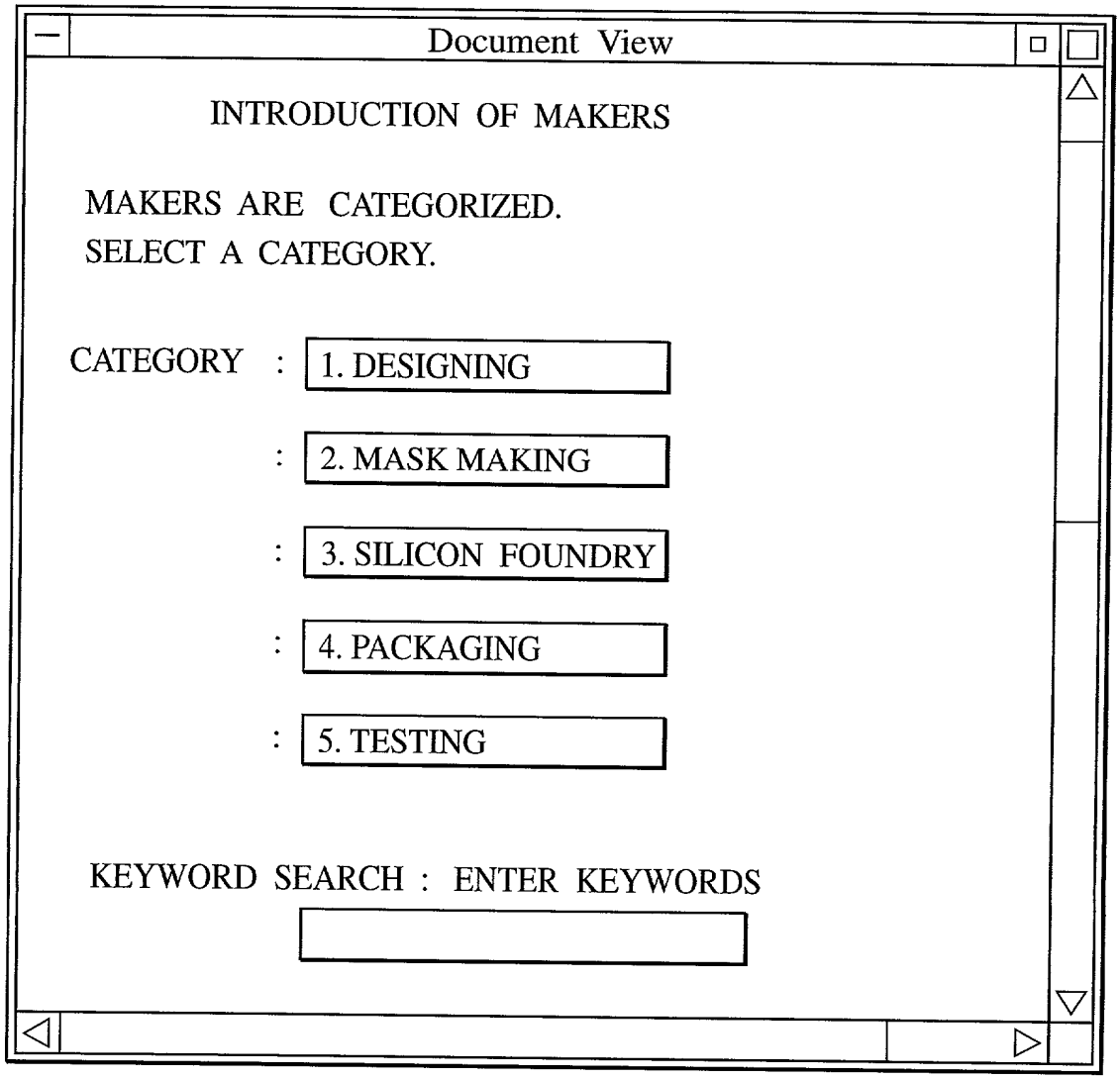

Document View
INTRODUCTION OF MAKERS
MAKERS ARE CATEGORIZED.
SELECT A CATEGORY.
CATEGORY :
1. DESIGNING
2. MASK MAKING
3. SILICON FOUNDRY
4. PACKAGING
5. TESTING
KEYWORD SEARCH : ENTER KEYWORDS

FIG.24

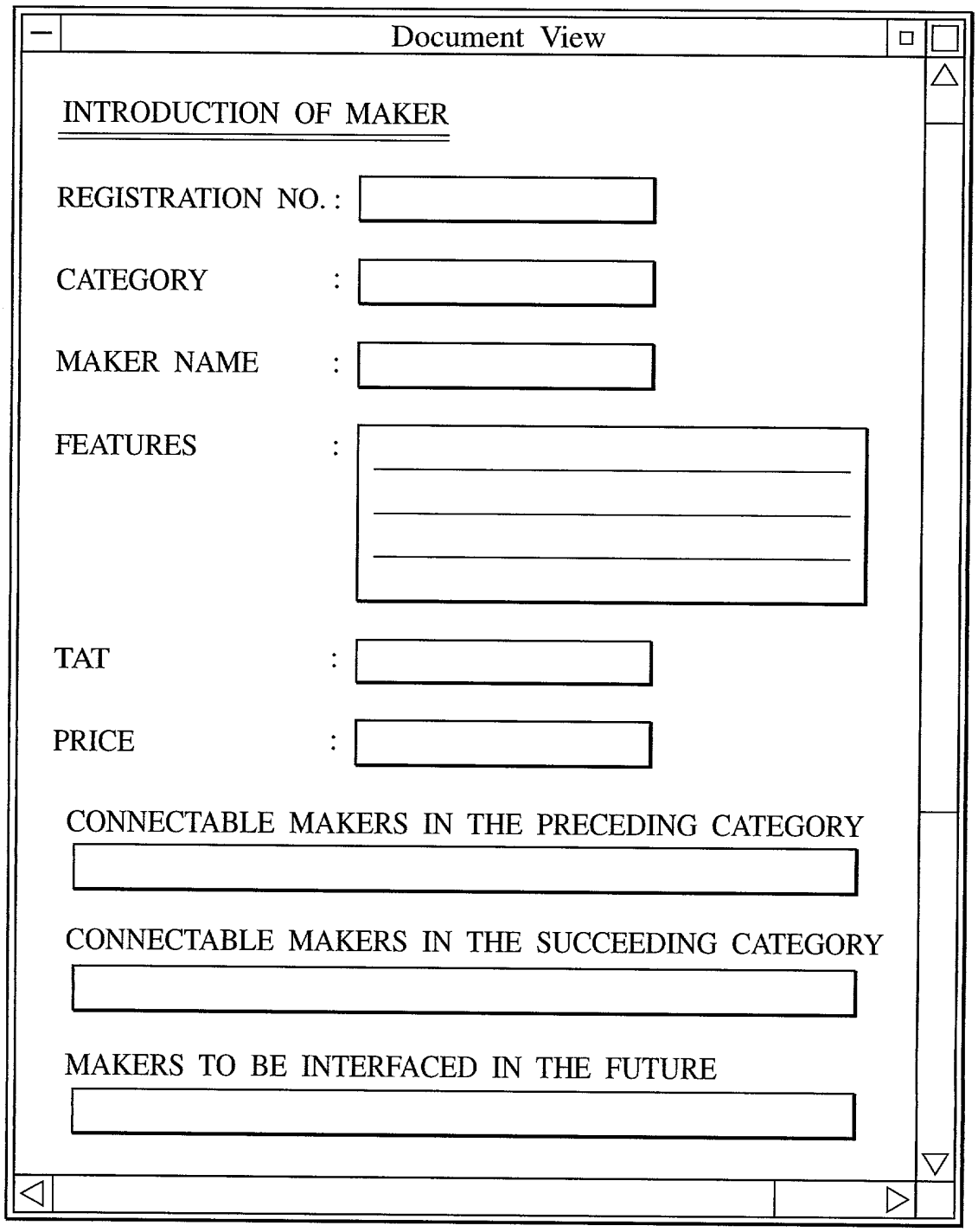

Document View
INTRODUCTION OF MAKER
REGISTRATION NO. :
CATEGORY :
MAKER NAME :
FEATURES :
TAT :
PRICE :
CONNECTABLE MAKERS IN THE PRECEDING CATEGORY
CONNECTABLE MAKERS IN THE SUCCEEDING CATEGORY
MAKERS TO BE INTERFACED IN THE FUTURE

FIG.25

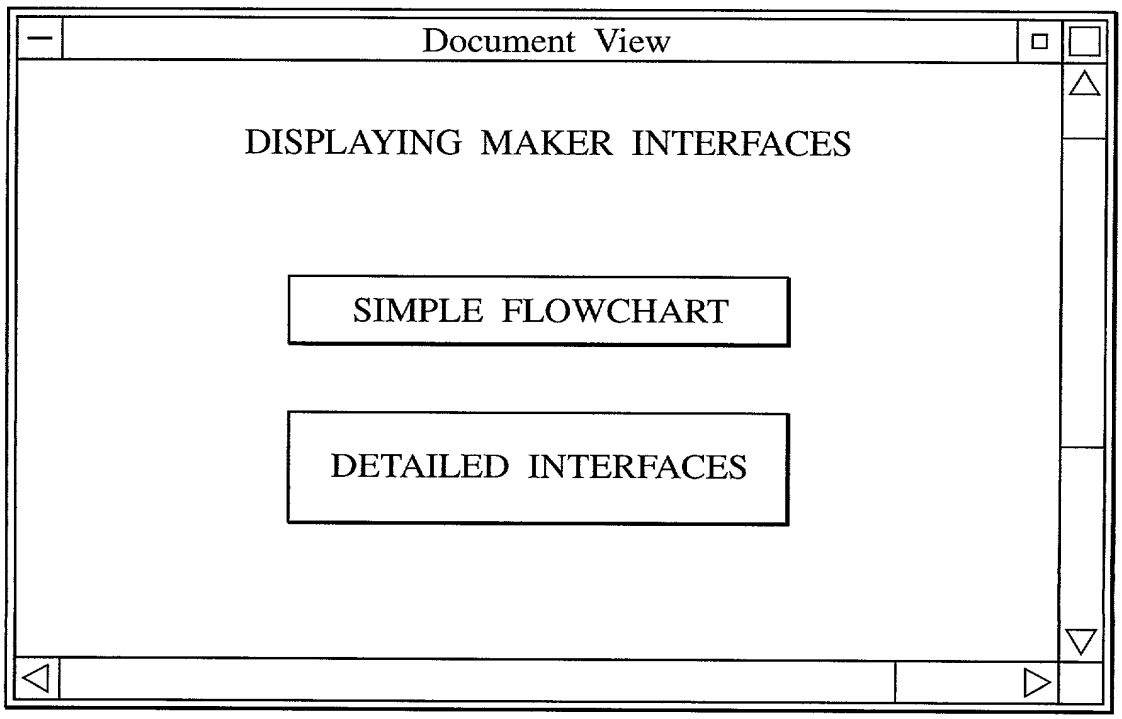

Document View
DISPLAYING MAKER INTERFACES
SIMPLE FLOWCHART
DETAILED INTERFACES

FIG.26

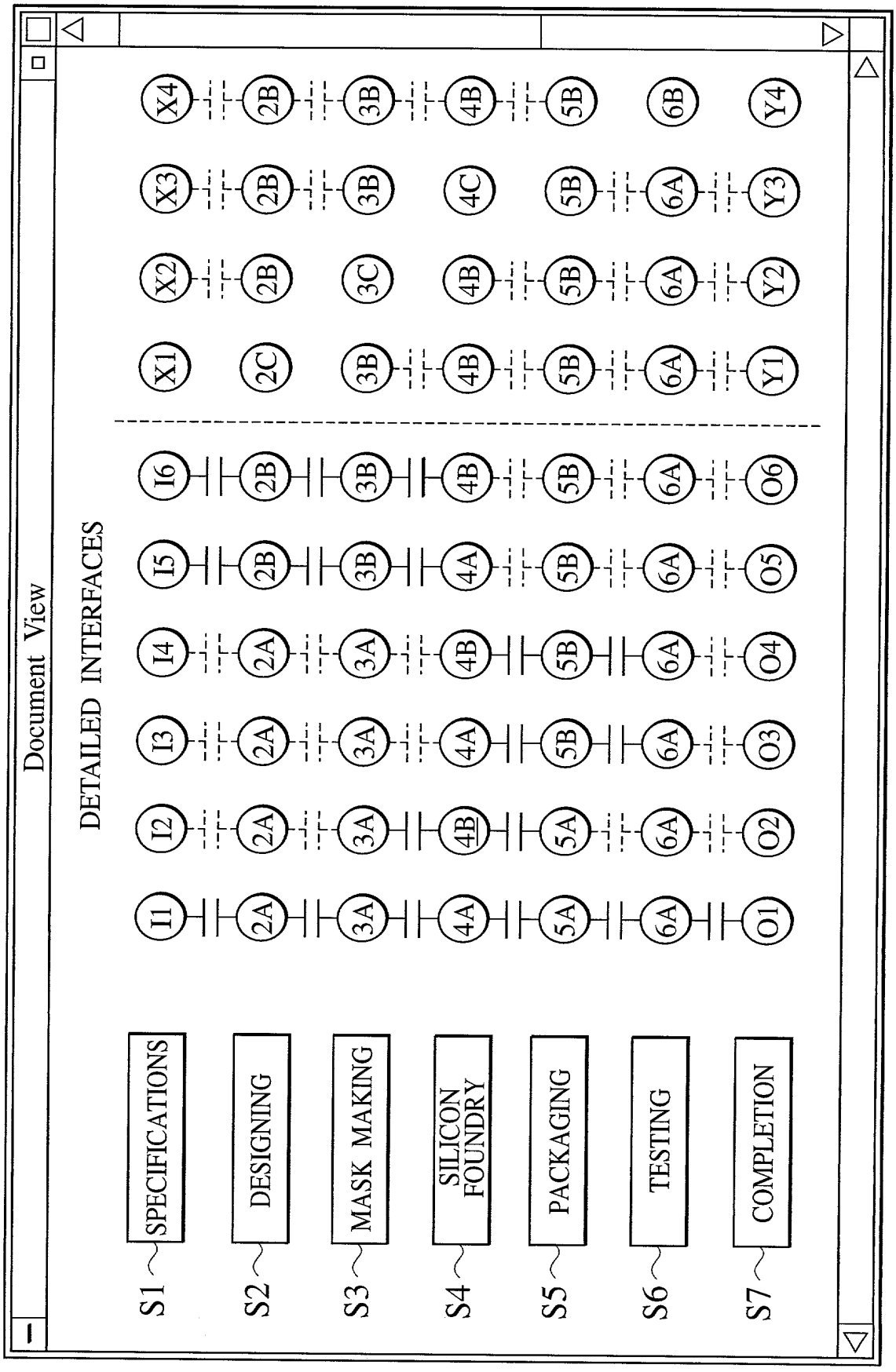
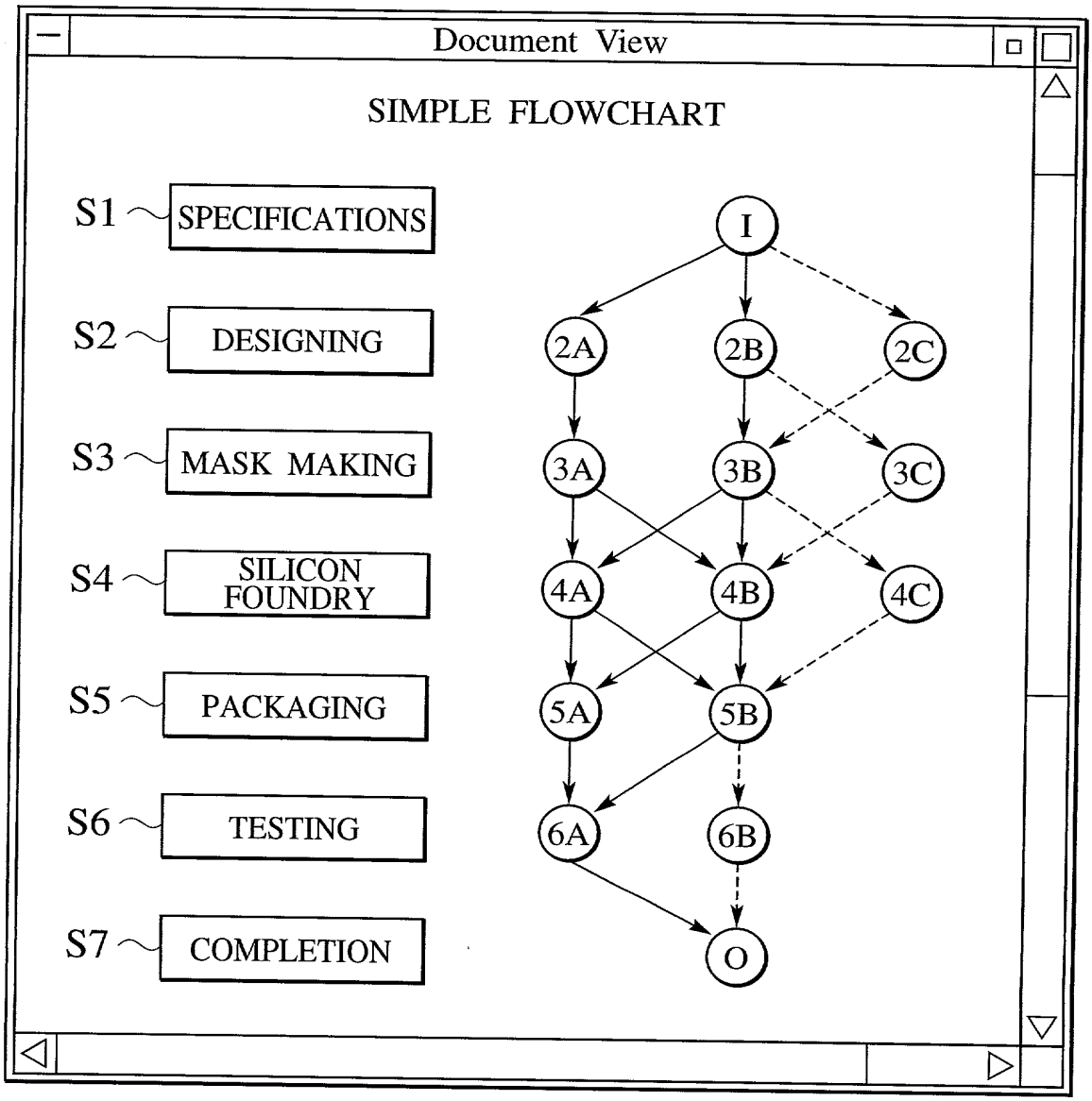
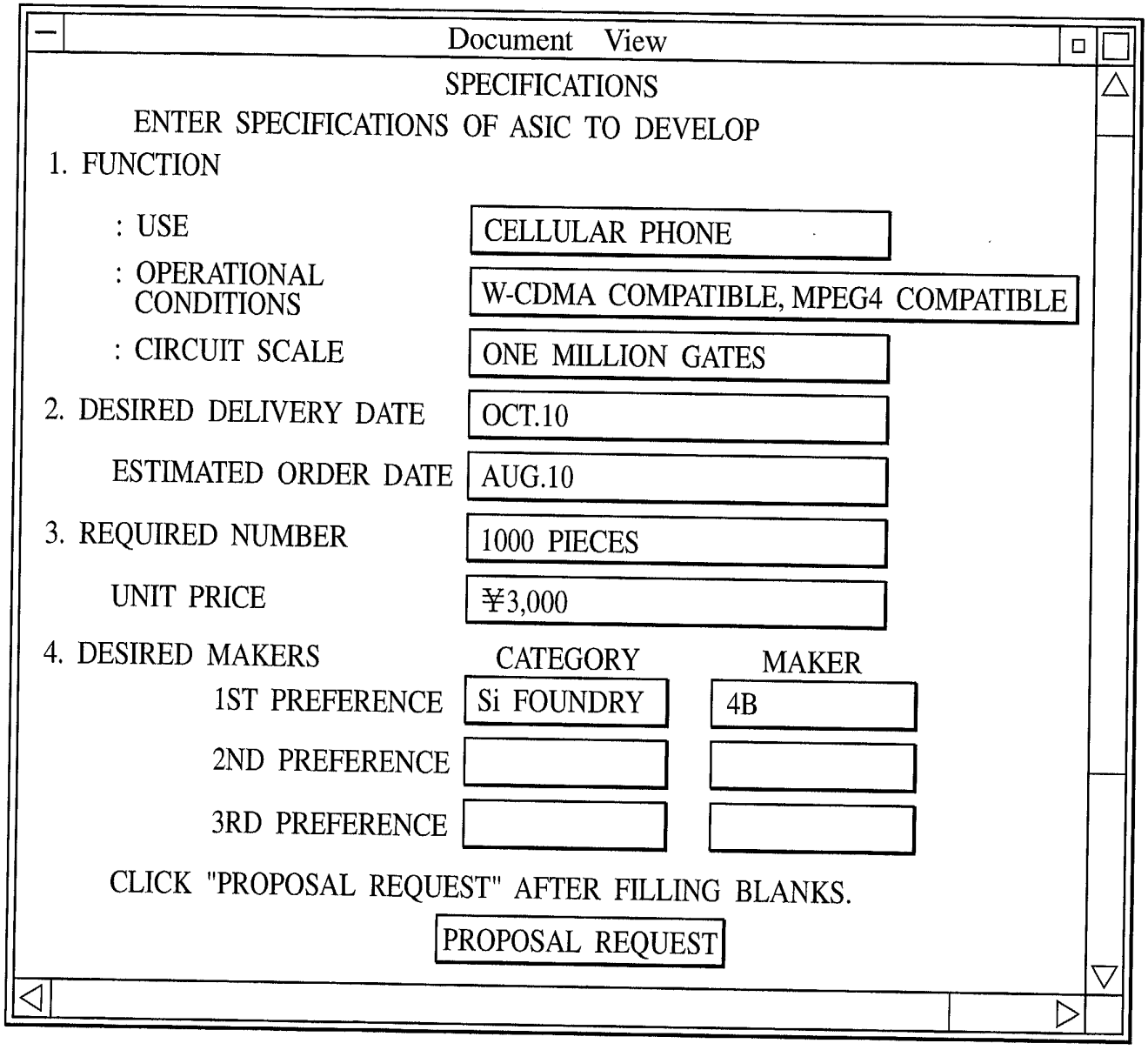

Document View
DETAILED INTERFACES
S1
SPECIFICATIONS
S2
DESIGNING
S3
MASK MAKING
S4
SILICON FOUNDRY
S5
PACKAGING
S6
TESTING
S7
COMPLETION
I1
I2
I3
I4
I5
I6
O1
O2
O3
O4
O5
O6
X1
X2
X3
X4
Y1
Y2
Y3
Y4

FIG.27


Document View
SIMPLE FLOWCHART
S1
SPECIFICATIONS
S2
DESIGNING
S3
MASK MAKING
S4
SILICON FOUNDRY
S5
PACKAGING
S6
TESTING
S7
COMPLETION
I
2A
2B
2C
3A
3B
3C
4A
4B
4C
5A
5B
6A
6B
O

T06290 "e99e6860

FIG.28



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DOCKET #: 210608US2
INV: Tsutomu CHIBA
SHEET 27 OF 34

FIG.29

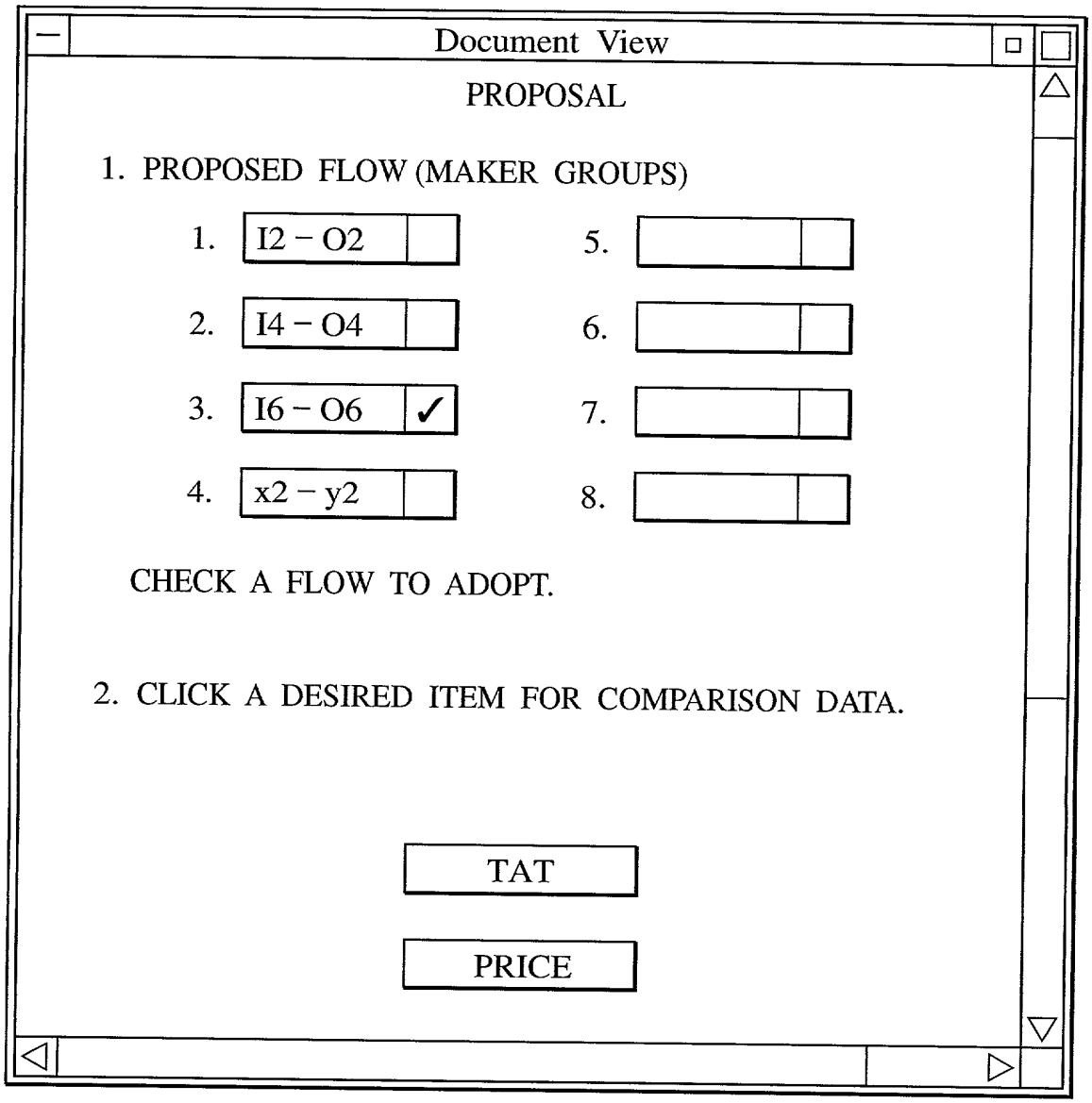

Document View
PROPOSAL
1. PROPOSED FLOW (MAKER GROUPS)
1. I2 – O2
2. I4 – O4
3. I6 – O6 ✓
4. x2 – y2
5.
6.
7.
8.
CHECK A FLOW TO ADOPT.
2. CLICK A DESIRED ITEM FOR COMPARISON DATA.
TAT
PRICE

FIG.30

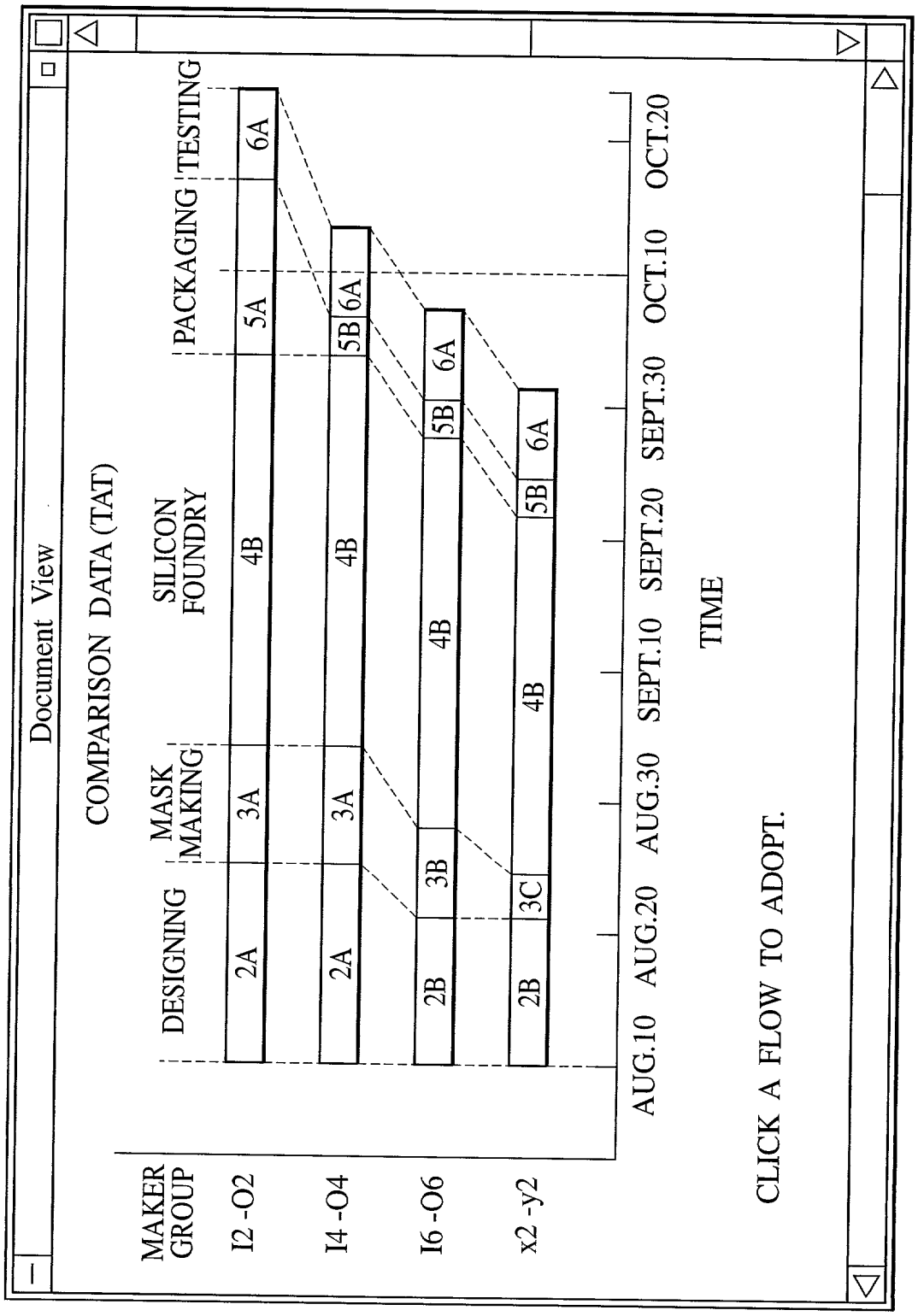

Document View
COMPARISON DATA (TAT)
MAKER GROUP
DESIGNING
MASK MAKING
SILICON FOUNDRY
PACKAGING
TESTING
I2 -O2
I4 -O4
I6 -O6
x2 -y2
2A
3A
4B
5A
2B
3B
3C
5B
6A
AUG.10
AUG.20
AUG.30
SEPT.10
SEPT.20
SEPT.30
OCT.10
OCT.20
TIME
CLICK A FLOW TO ADOPT.

FIG.31

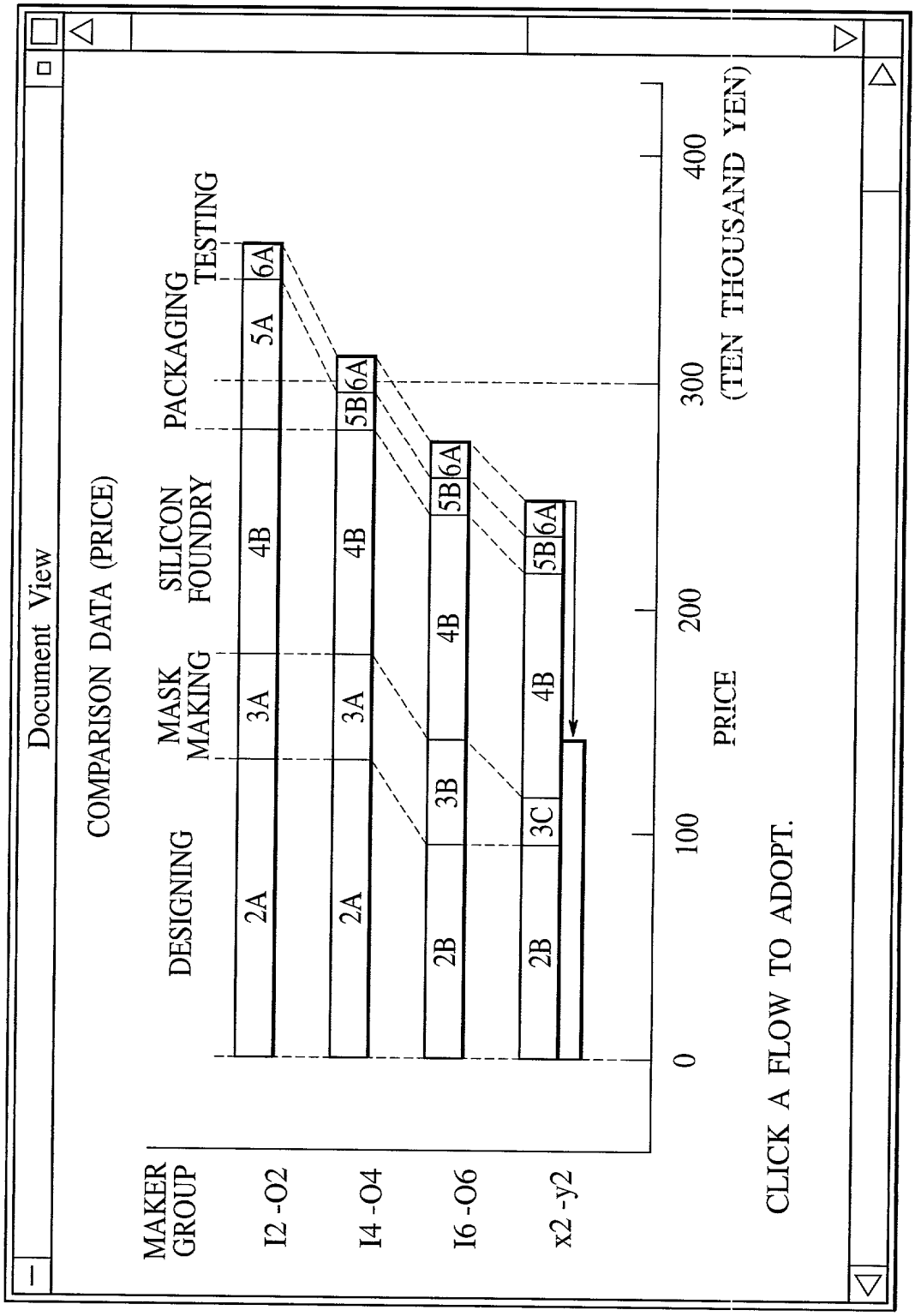

Document View
COMPARISON DATA (PRICE)
DESIGNING
MASK MAKING
SILICON FOUNDRY
PACKAGING
TESTING
MAKER GROUP
I2 -O2
I4 -O4
I6 -O6
x2 -y2
2A
3A
4B
5A
6A
2B
3B
4B
5B
6A
2B
3C
4B
5B
6A
0
100
200
300
400
PRICE
(TEN THOUSAND YEN)
CLICK A FLOW TO ADOPT.

FIG.32

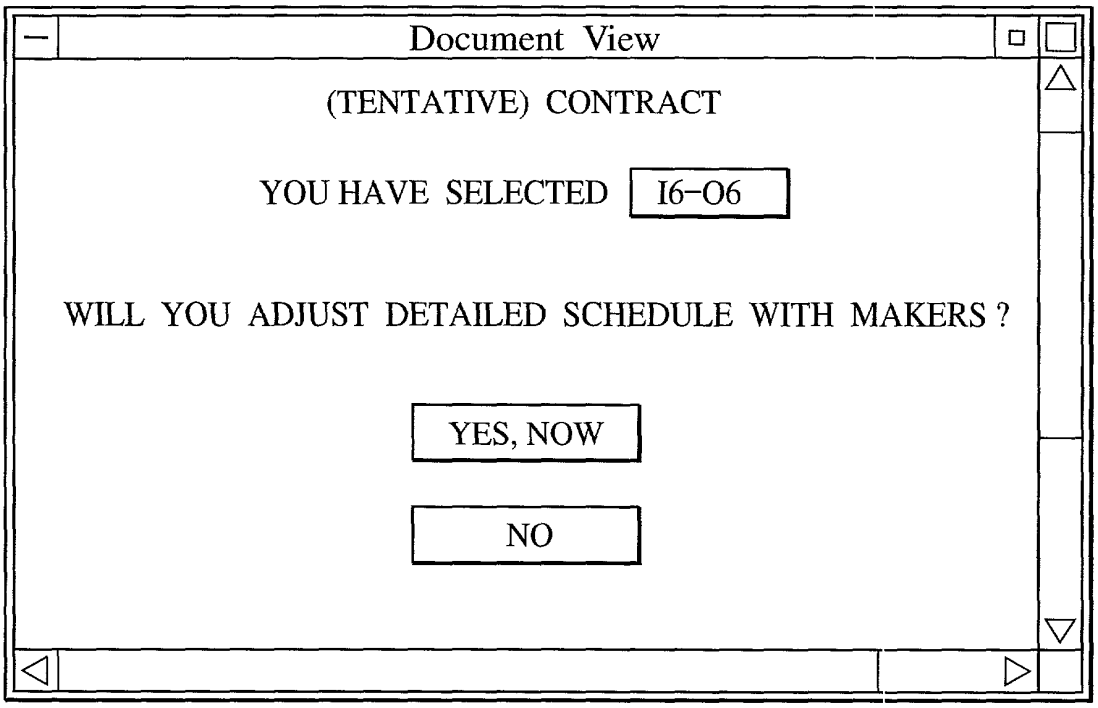

Document View
(TENTATIVE) CONTRACT
YOU HAVE SELECTED
I6-O6
WILL YOU ADJUST DETAILED SCHEDULE WITH MAKERS ?
YES, NOW
NO

FIG.33

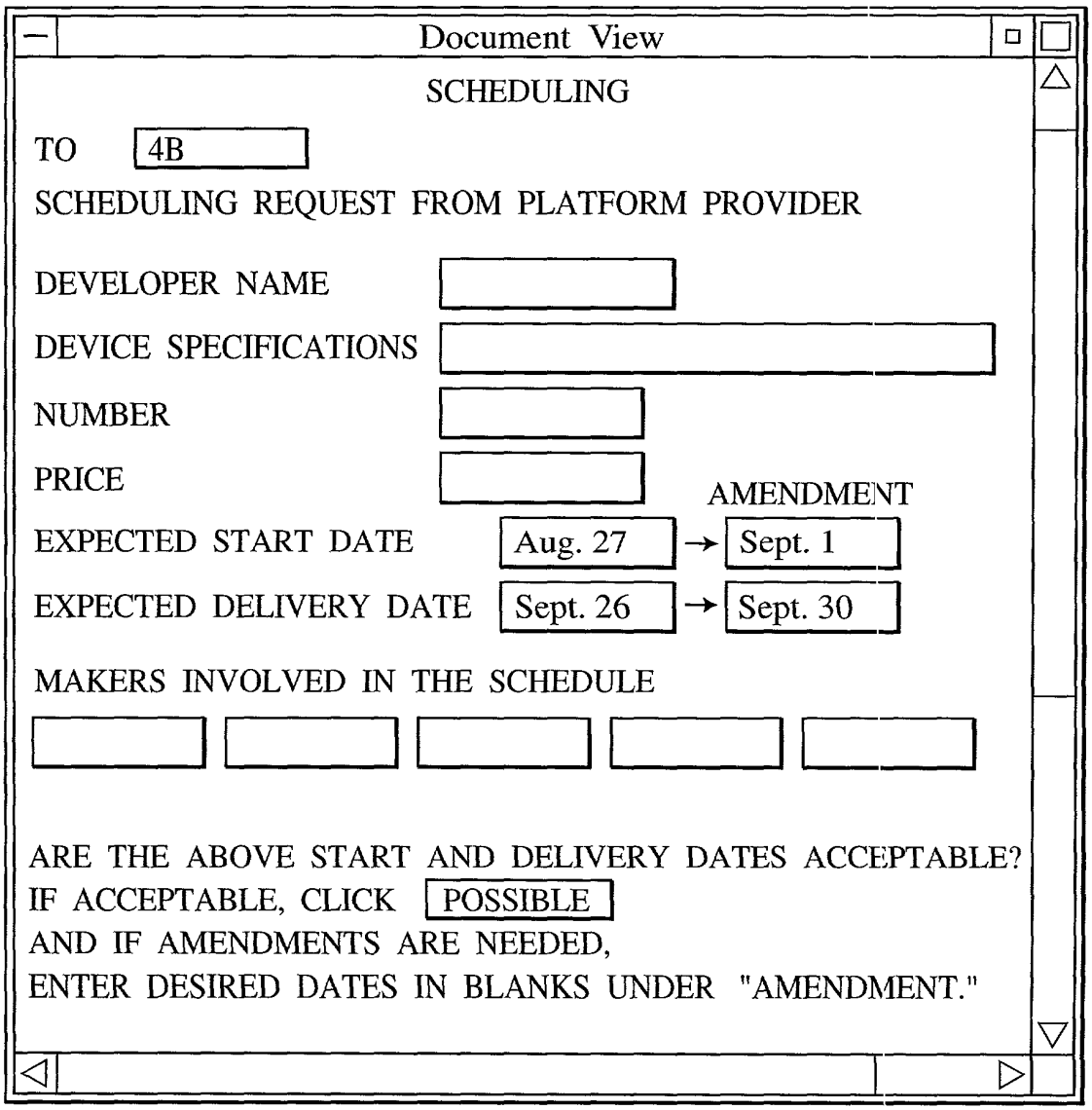

Document View
SCHEDULING
TO 4B
SCHEDULING REQUEST FROM PLATFORM PROVIDER
DEVELOPER NAME
DEVICE SPECIFICATIONS
NUMBER
PRICE
AMENDMENT
EXPECTED START DATE
Aug. 27
Sept. 1
EXPECTED DELIVERY DATE
Sept. 26
Sept. 30
MAKERS INVOLVED IN THE SCHEDULE
ARE THE ABOVE START AND DELIVERY DATES ACCEPTABLE?
IF ACCEPTABLE, CLICK POSSIBLE
AND IF AMENDMENTS ARE NEEDED,
ENTER DESIRED DATES IN BLANKS UNDER "AMENDMENT."

FIG.34

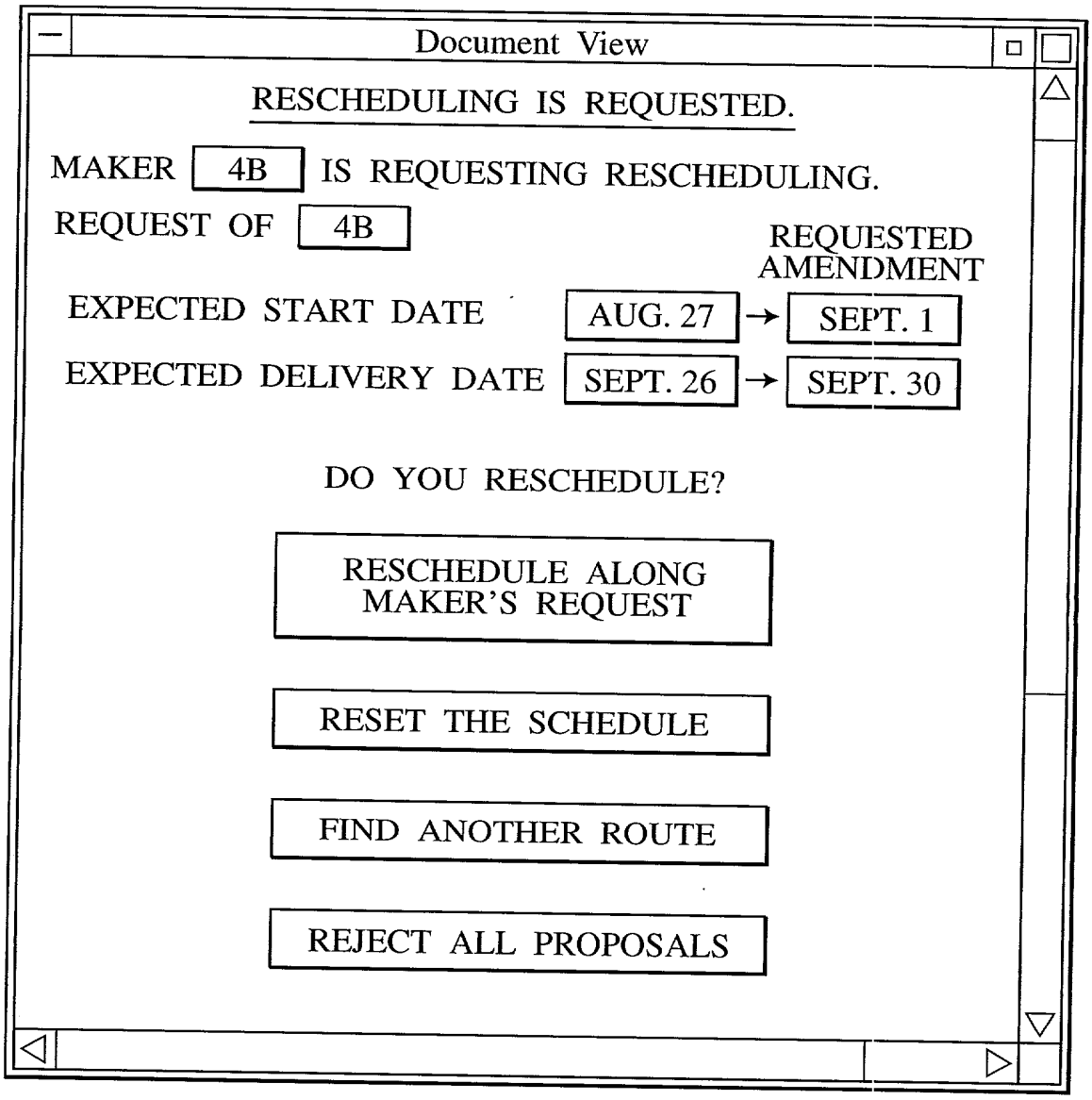
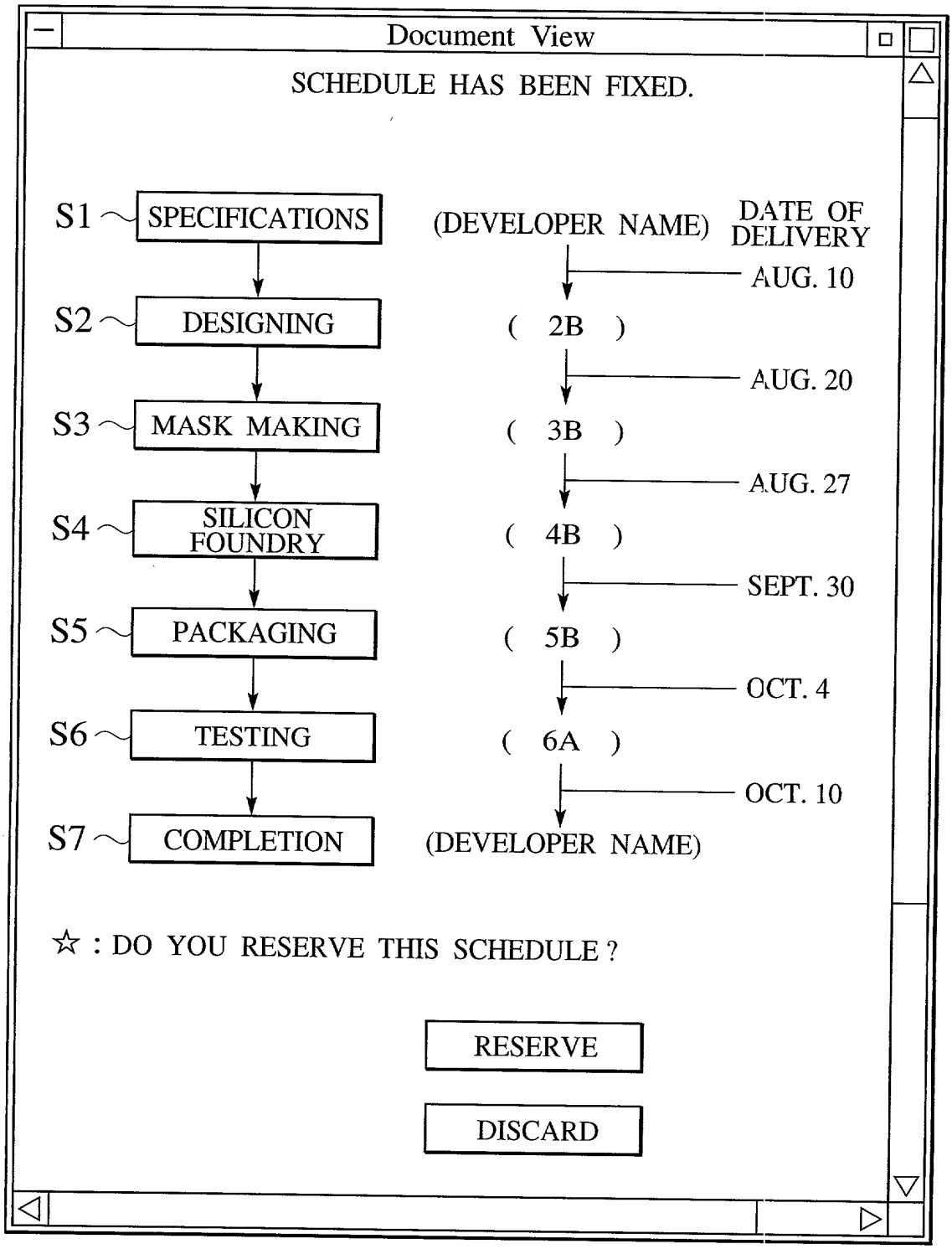

Document View
RESCHEDULING IS REQUESTED.
MAKER 4B IS REQUESTING RESCHEDULING.
REQUEST OF 4B
REQUESTED AMENDMENT
EXPECTED START DATE
AUG. 27
SEPT. 1
EXPECTED DELIVERY DATE
SEPT. 26
SEPT. 30
DO YOU RESCHEDULE?
RESCHEDULE ALONG MAKER'S REQUEST
RESET THE SCHEDULE
FIND ANOTHER ROUTE
REJECT ALL PROPOSALS

FIG.35


Document View
SCHEDULE HAS BEEN FIXED.
S1
SPECIFICATIONS
(DEVELOPER NAME)
DATE OF DELIVERY
AUG. 10
S2
DESIGNING
(2B)
AUG. 20
S3
MASK MAKING
(3B)
AUG. 27
S4
SILICON FOUNDRY
(4B)
SEPT. 30
S5
PACKAGING
(5B)
OCT. 4
S6
TESTING
(6A)
OCT. 10
S7
COMPLETION
(DEVELOPER NAME)
☆ : DO YOU RESERVE THIS SCHEDULE ?
RESERVE
DISCARD